

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WISCONSIN

KATHLEEN McHUGH, and DEANNA)
SCHNEIDER, Individually and on)
behalf of all persons similarly)
situated,)
Plaintiffs,)
vs.) CASE NO.: 11-CV-724
MADISON-KIPP CORPORATION,)
CONTINENTAL CASUALTY COMPANY,)
UNITED STATES FIRE INSURANCE)
COMPANY and ABC INSURANCE)
COMPANIES 1 - 50,)
Defendants.
and)
MADISON-KIPP CORPORATION)
Cross-Claimant,)
vs.)
CONTINENTAL CASUALTY COMPANY,)
COLUMBIA CASUALTY COMPANY and)
UNITED STATES FIRE INSURANCE)
COMPANY,
Cross-Claim Defendants,

(Caption Continued)

DEPOSITION OF LORNE G. EVERETT, Ph.D.
SANTA BARBARA, CALIFORNIA
THURSDAY, FEBRUARY 14, 2013

1 and)
2 CONTINENTAL CASUALTY COMPANY)
and COLUMBIA CASUALTY COMPANY)
3 Cross-Claim defendants)
4 and)
5 LUMBERMENS MUTUAL CASUALTY)
COMPANY, AMERICAN MOTORISTS)
INSURANCE COMPANY, and JOHN DOE)
INSURANCE COMPANIES 1-20,)
8 Third-Party Defendants.)
9 _____)
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18 REPORTED BY: JOAN L. PARKER, CSR 12912
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1 DEPOSITION OF LORNE G. EVERETT, Ph.D., TAKEN ON BEHALF
2 OF THE DEFENDANT, ON THURSDAY, FEBRUARY 14, 2013,
3 COMMENCING AT 9:01 A.M., AT 633 EAST CABRILLO BOULEVARD,
4 SANTA BARBARA, CALIFORNIA, BEFORE JOAN L. PARKER,
5 CSR NO. 12912, CERTIFIED SHORTHAND REPORTER FOR THE
6 STATE OF CALIFORNIA, PURSUANT TO NOTICE.
7
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21 ALSO PRESENT:
22 HEIDI FIELDING, VIDEOGRAPHER
23 THOMAS M. JOHNSON
24
25

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LORNE G. EVERETT, Ph.D.		
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08:53	1	SANTA BARBARA, CALIFORNIA; THURSDAY, FEBRUARY 14, 2013
08:53	2	9:01 A.M.
09:00	3	
09:01	4	THE VIDEOGRAPHER: Good morning. My name is
09:01	5	Heidi Fielding. I'm a certified legal video specialist
09:01	6	here on behalf of Kusar Court Reporters & Legal
09:01	7	Services.
09:01	8	Today's date is February 14th of the year
09:01	9	2013. And the time on the monitor is 9:02 a.m.
09:02	10	This is the video deposition of
09:02	11	Lorne G. Everett, M.D., in the matter of "Kathleen
09:02	12	McHugh, et al., versus Madison-Kipp Corporation, et al.,"
09:02	13	and a cross-complaint located in the U.S. District
09:02	14	Court, Western District of Wisconsin. The case number
09:02	15	is 11-CV-724.
09:02	16	This deposition is taking place at
09:02	17	Fess Parker's Doubletree Resort, 63 Cabrillo Boulevard,
09:02	18	Santa Barbara, California and is being taken on behalf
09:02	19	of the defendants.
09:02	20	Please note: Audio and video recording will
09:02	21	take place, and unless all parties agree to go off the
09:02	22	record, it will continue.
09:02	23	The microphones are very powerful. They
09:02	24	pick up whispers, private conversations, and cell
09:02	25	conversations.

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09:02	1	Counsel, will you please state your
09:02	2	appearances for the record.
09:02	3	MR. BERGER: Norman Berger on behalf of the
09:02	4	plaintiffs.
09:03	5	And just for the record, Dr. Everett is
09:03	6	Ph.D., not M.D.
09:03	7	THE VIDEOGRAPHER: Thank you.
09:03	8	MR. BUSCH: John A. Busch, B-u-s-c-h,
09:03	9	Michael Best & Friedrich, appearing on behalf of the
09:03	10	defendant, Madison-Kipp Corporation.
09:03	11	MR. SCHELLER: John Scheller, Michael Best &
09:03	12	Friedrich, also on behalf of the defendant Madison-Kipp
09:03	13	Corporation.
09:03	14	MR. BUSCH: Appearing with us is Tom Johnson
09:03	15	of ARCADIS.
09:03	16	MR. COHEN: Michael Cohen Meissner Tierney
09:03	17	Fisher & Nichols on behalf of U.S. Fire Insurance
09:03	18	Company.
09:03	19	MR. WEISS: Monte Weiss, Weiss Law Office,
09:03	20	on behalf of defendants American Motorists Insurance.
09:03	21	MS. ROSS: Rebecca Ross, on behalf of
09:03	22	Columbia Casualty Company and Continental Casualty
09:03	23	Company.
09:03	24	THE VIDEOGRAPHER: Our court reporter today
09:03	25	is Joan Parker from Kusar Court Reporters & Legal

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09:03 1 Services.
 09:03 2 If you would please swear the witness.
 09:03 3
 09:03 4 LORNE G. EVERETT, Ph.D.,
 09:03 5 having been first duly sworn by the Certified Shorthand
 09:03 6 Reporter, was examined and testified as follows:
 09:04 7
 09:04 8 THE VIDEOGRAPHER: Please begin.
 09:04 9
 09:04 10 EXAMINATION
 09:04 11 BY MR. BUSCH:
 09:04 12 Q. Please state your name.
 09:04 13 A. My name is Lorne Gordon Everett.
 09:04 14 (Exhibit 1 was marked for identification.)
 09:04 15 Q. BY MR. BUSCH: And Dr. Everett, I'm showing you
 09:04 16 what's been marked as Exhibit 1. I represent to you
 09:04 17 that that is a copy of the report that you committed in
 09:04 18 this matter. I believe it's dated December 3rd of 2012.
 09:04 19 If you'd take a moment and see, just upon your
 09:04 20 review, whether that looks like a complete report.
 09:04 21 A. It looks like it is, yes, sir.
 09:04 22 Q. Were you retained by someone to provide opinions
 09:04 23 in this matter?
 09:04 24 A. Yes, sir.
 09:04 25 Q. By whom were you retained?

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09:04 1 A. I was retained by the law firm that Mr. Berger is
 09:04 2 a partner in.
 09:04 3 And I was retained by the Collins Law Firm where
 09:05 4 a gentleman by the name of Shawn Collins works.
 09:05 5 Q. Is this the first engagement you've had on behalf
 09:05 6 of Mr. Berger or Mr. Collins or their law firms serving
 09:05 7 as an expert witness?
 09:05 8 A. It's not the first time, no, sir.
 09:05 9 Q. Can you list for me the times you've been
 09:05 10 retained by them to obtain expert opinions.
 09:05 11 A. I believe so. I can, sir.
 09:05 12 Q. Okay.
 09:05 13 A. I worked with Mr. Berger on a site in next to the
 09:05 14 Burbank Airport referred to as the Hawker-Pacific site.
 09:05 15 I worked with Mr. Berger and Mr. Collins on a
 09:05 16 site in the Mallard Lake area outside of Chicago.
 09:06 17 Um, there may be another one that may have
 09:06 18 escaped my mind. If you could refresh my mind.
 09:06 19 Q. Did you work at all in the Kraft case? Is that
 09:06 20 the one in Mallard lake or is that another one?
 09:06 21 A. Thank you, sir. No, that's the different one.
 09:06 22 Q. Okay.
 09:06 23 A. And I did work in that one.
 09:06 24 Q. Okay. And as you sit here today, is that your
 09:06 25 best recollection that those are the three with which

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09:06 1 you were engaged -- for which you were engaged?
 09:06 2 A. As I said, that's the best that I can recall.
 09:06 3 Q. Is there -- I believe there's a list in Exhibit 1
 09:06 4 of the matters for which you've served as an expert
 09:06 5 witness, at least for a period of time. And if you
 09:06 6 could take a look at that. I believe it's on page --
 09:07 7 Have you found it?
 09:07 8 A. I believe I have, sir.
 09:07 9 Q. What page is it on?
 09:07 10 A. I believe it's page 3 of my biography, sir.
 09:07 11 Q. All right. And take a look at that list and if
 09:07 12 there are others for which you have worked with either
 09:07 13 Mr. Berger or Mr. Townsend or their firms, can you
 09:07 14 please identify those the best you can.
 09:07 15 A. I believe you mean Mr. Collins.
 09:07 16 Q. Mr. Collins; that's right. Or Mr. Berger.
 09:07 17 (Pause in proceedings.)
 09:09 18 THE WITNESS: Um, there's a couple that I
 09:09 19 would bring to your attention, sir.
 09:09 20 Q. BY MR. BUSCH: Okay.
 09:09 21 A. There are two representations of work with Hawker
 09:09 22 Pacific.
 09:09 23 Q. All right.
 09:09 24 A. And those were both with Mr. Berger.
 09:09 25 There's also a second reference to a case in

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09:09 1 DuPage County.
 09:09 2 MS. ROSS: Excuse me. Keep your voice up a
 09:10 3 little bit more.
 09:10 4 THE WITNESS: Thank you.
 09:10 5 MS. ROSS: Thank you.
 09:10 6 THE WITNESS: Second case is in DuPage
 09:10 7 County. I referred to that as the Mallard Lake case,
 09:10 8 but there appears to be two parts to that, sir.
 09:10 9 Q. BY MR. BUSCH: All right. And can you -- which
 09:10 10 ones were those?
 09:10 11 A. Um, the second Hawker-Pacific is this one here,
 09:10 12 sir.
 09:10 13 Q. Yes, I see that.
 09:10 14 A. And then 2009, Perez --
 09:10 15 Q. Yes, I see that.
 09:10 16 A. -- Forest Preserve is the second reference to
 09:10 17 DuPage County. And I believe that would have been with
 09:10 18 Mr. Berger and perhaps with --
 09:10 19 Q. Mr. Collins?
 09:10 20 A. -- Mr. Collins.
 09:10 21 Q. Can you briefly describe for me the -- what your
 09:10 22 engagement was in regard to the Burbank Airport?
 09:10 23 A. Yes, sir. The --
 09:11 24 MR. BERGER: And you can give him a general
 09:11 25 description. I don't want you to disclose any

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09:11 1 privileged matters but --
 09:11 2 MR. BUSCH: I want to know generally.
 09:11 3 MR. BERGER: -- a general description.
 09:11 4 MR. BUSCH: Yes.
 09:11 5 THE WITNESS: The issue at hand, sir, was a
 09:11 6 large groundwater contamination problem. Much of the
 09:11 7 problem was associated with chlorinated hydrocarbons.
 09:11 8 Q. BY MR. BUSCH: Any particular chlorinated
 09:11 9 hydrocarbon?
 09:11 10 A. Mostly tetrachloroethylene and trichloroethylene,
 09:11 11 sir.
 09:11 12 Q. Okay. Do those have initials that they're
 09:11 13 commonly used -- that are commonly used?
 09:11 14 A. Yes, sir. They're often referred to as PCE and
 09:11 15 TCE chemical.
 09:11 16 Q. So we use the -- if I use term PCE and TCE in
 09:11 17 this deposition, we'll have a common understanding as to
 09:11 18 what they mean based upon how you described them?
 09:11 19 A. Yes, sir.
 09:11 20 Q. And did you, to your knowledge, as you recall,
 09:12 21 did you represent plaintiff or defendant or some other
 09:12 22 entity in regard to the Burbank Airport?
 09:12 23 A. I believe I represented the owner of the
 09:12 24 property, so that would be a defendant, sir.
 09:12 25 (Pages 15 through 17 contain confidential

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09:15 1 Q. BY MR. BUSCH: What was your engagement in the,
 09:15 2 for lack of a better term, the Mallard Lake, which I
 09:15 3 believe you said is also the Forest Preserve District;
 09:15 4 is that correct?
 09:15 5 A. I believe so, sir.
 09:16 6 Q. Can you describe for me what your engagement was
 09:16 7 and what your opinion was?
 09:16 8 A. My engagement was to look at contamination
 09:16 9 originating from an, in effect, a landfill and looked at
 09:16 10 the geology and the hydrogeology and the flow path
 09:16 11 associated with the contamination and concluded that
 09:16 12 there was sufficient evidence to opine that there was a
 09:16 13 source in the landfill and that contamination had made
 09:16 14 it all the way to homes that were being impacted, sir.
 09:16 15 Q. And was there a, um -- was this also a PCE issue
 09:16 16 or was it some other chemical?
 09:16 17 A. Um, well, the parent compounds were PCE or TCE in
 09:17 18 the landfill. But it was the degradation of products
 09:17 19 going all the way down to cis-1,2-DCE to final chloride.
 09:17 20 It was really a final chloride which is a daughter
 09:17 21 products of the PCE degradation.
 09:17 22 Q. Is the Hawker-Pacific matter the Burbank Airport
 09:17 23 matter?
 09:17 24 A. Yes, sir.
 09:17 25 Q. Can you describe for me -- and you've described

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1 material and are bound separately. The
 2 nonconfidential portion of this deposition
 3 continues on page 18.)
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09:17 1 for me just now the work that you did and the toxin at
 09:17 2 issue in regard to the Mallard Lake/DuPage County
 09:17 3 matter; correct? That's what we just spoke about.
 09:17 4 A. Yes, sir.
 09:17 5 Q. Can you describe for me the work you did in
 09:17 6 regard to what we'll shorthand call the "Kraft" matter?
 09:17 7 A. Yes, sir. I looked at the operational activity
 09:17 8 at the Kraft facility. I looked at the distribution of
 09:18 9 the chlorinated hydrocarbons, PCE and TCE, that you and
 09:18 10 I've shared.
 09:18 11 Q. Yes.
 09:18 12 A. I looked at it with respect to soil
 09:18 13 contamination, soil and gas contamination, groundwater
 09:18 14 contamination. And I concluded that the Kraft facility
 09:18 15 was, in fact, the source of the chlorinated hydrocarbon
 09:18 16 impacts that we're seeing in that area.
 09:18 17 Q. What is the business of L. Everett & Associates?
 09:18 18 A. L. Everett & Associates and environmental
 09:18 19 consulting firm. And the breadth of our business ranges
 09:18 20 from site characterization and remediation through
 09:19 21 litigation support, sir.
 09:19 22 Q. How many employees does L. Everett & Associates
 09:19 23 have?
 09:19 24 A. There -- in addition to myself, sir, there
 09:19 25 are -- there are currently three full-time employees.

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09:19 1 Q. And can you describe for me -- I don't need their
09:19 2 names. What are their job duties?
09:19 3 A. The -- the job of Dr. Wells is kind of the
09:19 4 operations manager. He's kind of the lead project
09:19 5 manager, lead technical person.
09:19 6 And the other person is my senior engineer
09:19 7 Mr. Jorge Matos.
09:19 8 And the third individual is kind of an office
09:19 9 assistant. Her name is Jill Beniak.
09:19 10 Q. If you can, can you provide for me on a
09:19 11 percentage basis how much of your time is spent in
09:20 12 litigation support or how much of the business of
09:20 13 L. Everett & Associates is litigation support?
09:20 14 A. Of course, it's always going to vary some. But
09:20 15 last year -- it could be around 50, 50 percent, sir. I
09:20 16 don't have those numbers memorized. But we have a very
09:20 17 large remediation projects for a small company, so I
09:20 18 think 50-50 is reasonable.
09:20 19 Q. In rendering the opinion that is set forth in
09:20 20 Exhibit 1, did you rely on the expertise and/or
09:20 21 knowledge and/or work of any of these other employees
09:20 22 which you mentioned?
09:20 23 A. I -- I did, sir. And perhaps one further
09:20 24 individual that I had expected by now to be on staff
09:20 25 with us.

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09:20 1 Q. All right.
09:20 2 A. But we haven't signed the letter yet.
09:21 3 Q. And how much in total in hours, if that's how you
09:21 4 keep track from an office perspective, how many hours
09:21 5 work did you put in or your company put into the
09:21 6 creation of Exhibit 1?
09:21 7 A. I couldn't even make a guess to that without
09:21 8 having the timesheets in front of me. I really
09:21 9 couldn't --
09:21 10 Q. Do you --
09:21 11 A. -- feel comfortable.
09:21 12 Q. Do you bill based upon the hour?
09:21 13 A. We do, sir.
09:21 14 Q. And from time to time do you bill your clients?
09:21 15 A. We do, sir.
09:21 16 Q. And with which frequency?
09:21 17 A. We have annual -- not annual. We have monthly
09:21 18 invoices, sir.
09:21 19 Q. But as you sit here today you don't know. You
09:21 20 cannot even give an educated as to how much time was
09:21 21 logged by your company in preparing Exhibit 1?
09:21 22 A. Off the top of my head, I could not, sir.
09:22 23 Q. As of the date of this report --
09:22 24 A. Yes, sir.
09:22 25 Q. -- which is December 3, 2012, does Exhibit 1, the

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09:22 1 totality of the opinions that you were -- that you were
09:22 2 prepared to render as of that date?
09:22 3 A. As of that date, yes, sir.
09:22 4 Q. Yes.
09:22 5 Since that date, have you been asked to render
09:22 6 any other opinions?
09:22 7 A. I have a number of thoughts about the -- about
09:22 8 the new data that has, in my estimation, confirmed my
09:23 9 earlier opinions but have also shown -- I'll use the
09:23 10 term "shocking" levels of contamination at the site that
09:23 11 I don't think anybody appreciated.
09:23 12 And those very high new numbers now throw this
09:23 13 site into being one of the most contaminated sites that
09:23 14 I've ever worked with. And it completely changes the
09:23 15 risks associated with this particular site, sir.
09:23 16 And so I do have further thoughts about what we
09:23 17 know now and what we need to do now. But, Mr. Berger
09:23 18 and Mr. Collins haven't asked for specific
09:23 19 recommendations, but they asked me what these new data
09:23 20 mean.
09:24 21 MR. BUSCH: Mr. Berger, do you -- do you
09:24 22 intend to, um, supplement Mr. Everett's report with his
09:24 23 new thoughts and observations?
09:24 24 MR. BERGER: I don't know at this point. I
09:24 25 definitely -- he's prepared to give you what his new

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09:24 1 thoughts are today. And, you're welcome to inquire as
09:24 2 to what those additional thoughts are.
09:24 3 MR. BUSCH: Are you going to proffer them as
09:24 4 part of his opinion?
09:24 5 MR. BERGER: I believe so.
09:24 6 Q. BY MR. BUSCH: Do you have --
09:24 7 MR. BERGER: And that's why I've -- just so
09:24 8 the record reflects: What I handed you before the
09:24 9 deposition today was a folder containing some documents
09:24 10 which have data that is produced by Madison-Kipp to us
09:25 11 since the creation of Dr. Everett's report and has --
09:25 12 he's made some handwritten notations on some preexisting
09:25 13 maps and created a couple other maps based upon this
09:25 14 data. And I specifically gave you those because I
09:25 15 thought he may be referring to them --
09:25 16 MR. BUSCH: Right.
09:25 17 MR. BERGER: -- in his testimony. So feel
09:25 18 free to inquire about that.
09:25 19 MR. BUSCH: Under the local rules, any
09:25 20 supplementation of a report is to be done five days in
09:25 21 advance of the -- of the deposition. Um, reserving my
09:25 22 rights in regard to making objection, I'm going to make
09:25 23 an inquiry because I don't want to come back here if I
09:25 24 don't have to. But I do so reserving all rights that I
09:26 25 have in regard to that.

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09:26 1 MR. BERGER: You can reserve rights.
 09:26 2 I mean, among the things that Dr. Everett
 09:26 3 has looked at was data submitted to us by your office at
 09:26 4 6:00 a.m. this morning.
 09:26 5 MR. BUSCH: I understand.
 09:26 6 MR. BERGER: Western time. So we're
 09:26 7 doing -- we've been pushing hard to get data as soon as
 09:26 8 you have data.
 09:26 9 And I will say there was a substantial delay
 09:26 10 in getting data to us based upon the date of the data,
 09:26 11 with respect to, at least, the subslab sampling. And
 09:26 12 we're doing the best we can.
 09:26 13 So I understand you're reserving your
 09:26 14 rights. Dr. Everett's prepared to tell you what he can
 09:26 15 tell you based upon what his thoughts are.
 09:26 16 MR. BUSCH: All right. Would you mark this,
 09:26 17 please.
 09:27 18 (Exhibit 2 was marked for identification.)
 09:27 19 MR. BUSCH: And just for ease, Norm, what
 09:27 20 we'll do is I'll mark the entire folder, I think it's
 09:27 21 the easiest way to do it, as Everett Exhibit 2. I'll
 09:27 22 take this back with me, I'll have it Bates stamped, and
 09:27 23 I'll distribute to everyone.
 09:27 24 Or you can take it and Bates stamp it.
 09:27 25 MR. BERGER: I've distributed to

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09:27 1 every- -- I've given everybody here today a copy of that
 09:27 2 same folder.
 09:27 3 MR. BUSCH: Okay. But --
 09:27 4 MR. BERGER: And, um --
 09:27 5 MR. BUSCH: -- just so we -- for
 09:27 6 identification purposes, I'll probably Bates stamp it
 09:27 7 and --
 09:27 8 MR. BERGER: I have no problem with that.
 09:27 9 MR. BUSCH: Okay.
 09:27 10 MR. BERGER: That makes sense.
 09:27 11 Q. BY MR. BUSCH: Dr. Everett, let me show you
 09:27 12 what's been marked as Exhibit 2 and ask if you can
 09:27 13 identify that, please.
 09:27 14 (Pause in the proceedings.)
 09:27 15 THE WITNESS: This is material that I put
 09:27 16 together subsequent to my report, sir, and is based on
 09:27 17 some very recent data that I received, sir.
 09:28 18 Q. BY MR. BUSCH: And does that, does Exhibit 2
 09:28 19 relate in any way to the number of thoughts about which
 09:28 20 you spoke relating to the new data?
 09:28 21 A. It -- it does, sir. But it goes -- my thoughts
 09:28 22 are going to be beyond this because of what I just
 09:28 23 learned 45 minutes ago about even newer data.
 09:28 24 Q. Okay. Why don't we inquire as to your
 09:28 25 observations, opinions and/or thoughts that have arisen

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09:28 1 since December 3, 2012, if you can enumerate them for
 09:28 2 me.
 09:28 3 And you can handle it any way you want to. You
 09:28 4 can list them or we can take them one at a time and
 09:28 5 inquire, whichever's easier for you.
 09:28 6 A. Well, if I could begin with the -- this figure
 09:28 7 here.
 09:28 8 Q. Yes. And if you could identify it by reading off
 09:29 9 the top the system record.
 09:29 10 A. Yes, sir.
 09:29 11 MR. BERGER: You want to call that, maybe,
 09:29 12 2A.
 09:29 13 MR. BUSCH: Yes.
 09:29 14 MR. BERGER: Why don't we do that.
 09:29 15 (Exhibit 2A was marked for identification.)
 09:29 16 (Discussion held off the record.)
 09:29 17 Q. BY MR. BUSCH: Showing you what's been marked as
 09:29 18 Exhibit 2A, how does that impact upon your new thoughts
 09:29 19 subsequent to December 3, 2012?
 09:29 20 A. Well, first of all, the four new wells
 09:29 21 represented on this figure show concentrations of PCE
 09:29 22 that are, I'll say, more than double that we've ever
 09:30 23 witnessed on this site. So it is a much, much larger
 09:30 24 problem.
 09:30 25 Secondly --

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09:30 1 Q. And can -- and did you make a -- the wells to
 09:30 2 which you refer, can you just name the wells. Do they
 09:30 3 have an MW name --
 09:30 4 A. Yeah.
 09:30 5 Q. -- next to them?
 09:30 6 A. They do, sir.
 09:30 7 Q. And what are the four of which you speak?
 09:30 8 A. The four that I speak to are Monitoring Well 15,
 09:30 9 Monitoring Well 14, Monitoring Well 17, and Monitoring
 09:30 10 Well 16.
 09:30 11 Q. Thank you.
 09:30 12 MR. BERGER: 13.
 09:30 13 THE WITNESS: And Monitoring Well 13.
 09:30 14 Forgive me.
 09:30 15 Q. BY MR. BUSCH: And are those deep, shallow, or
 09:30 16 combined; do you know?
 09:30 17 A. These were all directed to be deep wells.
 09:30 18 Q. And that's deep groundwater wells; correct?
 09:30 19 A. That's correct, sir.
 09:30 20 And Monitoring Well 13 has 9,400 parts per
 09:31 21 billion PCE. And that is, in my estimation, several
 09:31 22 times the 1 percent rule for PCE, which to me says and
 09:31 23 to DNAPL site and it is a DNAPL site with DNAPLs down in
 09:31 24 the 120 to 140 foot depth range in fractured rock.
 09:31 25 And what that says is that based on what we know

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09:31 1 in America, DNAPL sites in fractured rock have never
 09:31 2 been cleaned up to MCLs anywhere in America. And that
 09:32 3 flies in the face of what Mr. Johnson says that the site
 09:32 4 will be cleaned up in two decades. This groundwater
 09:32 5 resource has been hugely damaged and for the foreseeable
 09:32 6 future, I don't see it ever getting cleaned up to MCL.
 09:32 7 And this groundwater resource is the water supply for
 09:32 8 the folks that live in that area; and therefore, I
 09:32 9 believe they have been hugely damaged in that way.
 09:32 10 Secondly, the Monitoring Well 15 is about 440 or
 09:32 11 more feet north of the site. It has concentrations of
 09:33 12 3,600 parts per billion. And Monitoring Well 15 is
 09:33 13 located in the area noted as 5 parts per billion.
 09:33 14 So what that says is that very, very high
 09:33 15 groundwater contamination is going to be going a large
 09:33 16 distance offsite to the north and to the south and to
 09:33 17 the east and to the west. And therefore, Mr. Johnson's
 09:33 18 position that the maximum distance that the groundwater
 09:33 19 contamination could go -- I believe his number is
 09:33 20 540 feet -- is simply incorrect.
 09:33 21 Further, I think what has real significance here
 09:33 22 is that the southern well, Monitoring Well 17, has
 09:34 23 1700 parts per billion in an area where the regulator
 09:34 24 felt that the concentration was only 5. And that well,
 09:34 25 Monitoring Well 17, is, I'll say, within a thousand feet

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09:34 1 of the city drinking water well, No. 8.
 09:34 2 And the Madison-Kipp site is in direct hydraulic
 09:34 3 connections with Monitoring Well 8, the city's drinking
 09:34 4 water well. When they turn on this Monitoring
 09:34 5 Well No. 8, the water goes down under Madison-Kipp so
 09:34 6 it's a direct feed.
 09:34 7 So what that says to me is that the City of
 09:34 8 Madison already thinks that there is a high risk
 09:34 9 associated with the Madison-Kipp site to their drinking
 09:34 10 water well. I think that they will be highly, highly,
 09:35 11 agitated when they find out these huge concentrations
 09:35 12 that are right next to their drinking water supply.
 09:35 13 That drinking water supply is now compromised for the
 09:35 14 foreseeable future.
 09:35 15 Q. And you're talking about the drinking source, in
 09:35 16 your opinion, that's compromised is Well 8?
 09:35 17 A. Yes, sir.
 09:35 18 Also I think that the -- the fact that we
 09:35 19 have -- I use the word shocking; I might call it
 09:35 20 surprising. But since 1974, what we're finding is that
 09:35 21 each time we put in a new well, we get shockingly new
 09:35 22 numbers that say this site has not been -- this hasn't
 09:35 23 been characterized for over 19 years.
 09:35 24 In 1974, the State said to Madison-Kipp you need
 09:36 25 to, in all due haste --

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09:36 1 They didn't use the word but that was the
 09:36 2 notes -- the notation.
 09:36 3 In all due haste, you need to characterize the
 09:36 4 horizontal and vertical distribution of the
 09:36 5 contamination.
 09:36 6 And this newest data shows that ARCADIS, albeit
 09:36 7 being the new player on the block, absolutely had not
 09:36 8 characterized this site.
 09:36 9 And so if you don't know the sources and you
 09:36 10 don't know the direction of the groundwater, you really
 09:36 11 can't be talking about risk.
 09:36 12 What I think is unconscionable that we have these
 09:36 13 reports coming out saying there is no risk to these
 09:36 14 families and the new data shows very high risk.
 09:36 15 Q. The risk of which you speak is the risk --
 09:36 16 MR. BERGER: Just for --
 09:36 17 MR. BUSCH: Yeah.
 09:36 18 MR. BERGER: I think you said 1974.
 09:37 19 THE WITNESS: Oh, no. 1994. I'm sorry.
 09:37 20 MR. BERGER: Why don't you correct that for
 09:37 21 the record.
 09:37 22 THE WITNESS: Yeah, forgive me.
 09:37 23 The -- the State of Wisconsin sent a letter
 09:37 24 to Madison-Kipp in 1994 requiring that they evaluate the
 09:37 25 vertical and horizontal distribution of the

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09:37 1 contamination. And they made the comment that you need
 09:37 2 to do it in all due haste because this contamination is
 09:37 3 going to continue migrate.
 09:37 4 Well, 19 years later the State couldn't have
 09:37 5 been more correct because now we have a huge groundwater
 09:37 6 problem.
 09:37 7 Q. BY MR. BUSCH: Have you come to an opinion as to
 09:37 8 when -- or have you done any work to ascertain when the
 09:37 9 readings at wells 15, 14, 17, 16, and 13, when they
 09:38 10 would have first shown contamination?
 09:38 11 MR. BERGER: Object to the form of the
 09:38 12 question.
 09:38 13 Q. BY MR. BUSCH: Go ahead.
 09:38 14 MR. BERGER: You can answer the question if
 09:38 15 you can.
 09:38 16 THE WITNESS: If I understand the question
 09:38 17 correctly, sir, I had the reports when the samples were
 09:38 18 taken.
 09:38 19 Q. BY MR. BUSCH: I don't mean the samples. You've
 09:38 20 indicated that currently the readings -- and you've
 09:38 21 marked or indicated what the readings were -- and those
 09:38 22 readings are from wells that were recently sunk;
 09:38 23 correct?
 09:38 24 A. That's correct, sir.
 09:38 25 Q. Have you formed any opinion as to when those

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09:38 1 levels at those locations were attained, first attained?

09:38 2 A. Um, I have, sir.

09:38 3 Q. Okay. And what is your opinion?

09:38 4 A. My opinion is that, that there was clear evidence

09:39 5 of -- of pure product PCE, the DNAPL.

09:39 6 There's clear evidence and repeated evidence and

09:39 7 a few decades of intentional dumping, literally pouring

09:39 8 of free product PCE onto gravel surfaces. And the PCE

09:39 9 in that form behaves as a DNAPL with a specific gravity

09:39 10 of about 1.6.

09:39 11 And what that means is it behaves like molasses.

09:39 12 It's heavier than water. And so as these buckets were

09:40 13 being thrown out the door, this PCE would migrate down,

09:40 14 based on its own weight, and it would migrate into the

09:40 15 fractured rock. And once it was in the fractured rock,

09:40 16 it would follow the fractures and not the groundwater

09:40 17 flow. And therefore, we now have DNAPL in fractured

09:40 18 rock, which is the most complex and the most expensive

09:40 19 of the sites to clean up.

09:40 20 So in terms of my time frame, sir, that would be

09:40 21 when they started dumping free product out the door,

09:40 22 which would be in the '70s -- in the 1940s.

09:40 23 Q. And I believe, just to clarify, that the, the

09:40 24 DNAPL of which you speak in this supplemental report is

09:41 25 a function of migration through fractured rock and not

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09:41 1 migration through groundwater; correct?

09:41 2 A. Oh, I definitely think there is a component that

09:41 3 is dissolved in the groundwater. But it's called a

09:41 4 DNAPL because it's dense and it's nonaqueous. And

09:41 5 nonaqueous means that it doesn't like. So it dissolves

09:41 6 very, very slowly. But the little bit that dissolves is

09:41 7 huge relative to the action though.

09:41 8 And so what that says is that the DNAPL lasts

09:41 9 decades and decades. It just doesn't want to dissolve.

09:41 10 Q. The impact of which you speak is in regard to the

09:42 11 readings at Wells 15, 14, 17, 16, and 13 is deep water;

09:42 12 correct?

09:42 13 A. Yes, sir.

09:42 14 Q. And the threat, for lack of a better term, is

09:42 15 associated with its impact on Madison City Well No. 8?

09:42 16 A. At least that, sir.

09:42 17 Q. Is there any other potential impact?

09:42 18 A. Oh, I believe that there is because Monitoring

09:42 19 Well 13, for example, that DNAPL got down there from the

09:42 20 land surface. And to this day, the Madison-Kipp site

09:42 21 has not been characterized to show where that source is.

09:42 22 They have no idea where that DNAPL is coming from.

09:43 23 Because for 19 years they didn't look for it.

09:43 24 So these fractures can go in any direction that

09:43 25 the fracture pattern will take. And since you don't

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09:43 1 know that direction, you do not know where the DNAPL is,

09:43 2 so the site has to be characterized as a DNAPL site.

09:43 3 And ARCADIS is on record saying, We don't think it's a

09:43 4 DNAPL site.

09:43 5 Well, I don't think you would be saying that now,

09:43 6 sir.

09:43 7 Q. What impact in regard to the materials set forth

09:43 8 in your report, Exhibit 1, does the facts of which we

09:43 9 spoke relating to Exhibit 2A, what impact does it have?

09:43 10 A. The impact is that it corroborates what I was

09:43 11 saying in my report, which is there hasn't been a source

09:44 12 investigation done to determine where these contaminants

09:44 13 are coming from. There hasn't been a source evaluation

09:44 14 for PCE. There hasn't been a source evaluation for PCB.

09:44 15 There hasn't been a source evaluation for PAHs. And so

09:44 16 we're getting all these surprises because no one has

09:44 17 been characterizing this site in a systematic way to

09:44 18 understand where the sources are.

09:44 19 Q. How else, if any?

09:44 20 A. Well, you can't find DNAPL if you're not looking

09:44 21 for it. I have a couple of papers on how you report.

09:44 22 And there simply hasn't been any characterization for

09:44 23 the real problem at the site there. In fact, there's

09:44 24 been -- there's been a history of denial, denial, denial

09:45 25 for the last 19 years. And with the current set of

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09:45 1 consultants there's continued to be denial. It's just

09:45 2 simply unscientific, sir.

09:45 3 Q. How would your recent -- or the facts as

09:45 4 described in Exhibit 2A impact at all in regard to

09:45 5 remediation?

09:45 6 A. It's substantially reduces the options to

09:45 7 remediate this site. And it dramatically increases the

09:45 8 cost with, for example, Monitoring Well 15, with very

09:45 9 high concentrations 400 feet to the north. It means

09:45 10 that the remediation strategy now must go offsite.

09:45 11 They're going to have to cut off this contamination at

09:46 12 some place to the north of the facility which is not

09:46 13 even on their own facility. That's going to have huge

09:46 14 implications.

09:46 15 Q. In what regards, sir?

09:46 16 A. The regard is that they're going to have to get

09:46 17 approvals from their neighbors to put in long-term

09:46 18 treatment systems that will do a number of things.

09:46 19 One, it'll make it very clear to the community

09:46 20 that their homes -- home values are being damaged by

09:46 21 badly contaminated water now flowing under their

09:46 22 facilities.

09:46 23 And the other issue is that in fractured rock at

09:46 24 these kinds of depths, the technologies that were

09:46 25 originally proposed, which was an ISCO permanganate

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09:47 1 oxidation technology, which may not be as effective as
 09:47 2 we thought because we don't know the distribution of the
 09:47 3 DNAPL, and therefore, we don't have a mass number.
 09:47 4 When you use an oxidation technology, you have to
 09:47 5 use a certain amount of oxidant for a certain amount of
 09:47 6 the PCE. If you don't know how much massive PCE is
 09:47 7 there, then you don't get the dose right, and you don't
 09:47 8 get the cleanup that you want.
 09:47 9 And so when you're faced with that, you then have
 09:47 10 to turn to techniques that are not mass dependent. And
 09:47 11 in this case the technique, in all probability would be
 09:47 12 six-phase heating where you simply have to cook the
 09:47 13 subsurface. And that becomes very expensive in such a
 09:47 14 large area at such a depth.
 09:48 15 Q. Directing your attention again to Exhibit 2, are
 09:48 16 there any -- does anything contained in Exhibit 2, other
 09:48 17 than 2A, impact upon the report that you drafted on
 09:48 18 December 3, 2012?
 09:48 19 A. What I learned 45 minutes ago is that there is
 09:48 20 PCE contamination directly under Madison-Kipp, and so we
 09:48 21 have it in the shallow groundwater.
 09:48 22 And what that says to me is they need to, once
 09:48 23 again, figure out the sources under Madison-Kipp.
 09:49 24 Secondly, we know that in the groundwater under
 09:49 25 Madison-Kipp we now have PCBs, PCBs in the groundwater.

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09:49 1 PCBs are extremely difficult to remediate.
 09:49 2 And we also know what we have PAHs under there.
 09:49 3 So what we have under Madison-Kipp now is
 09:49 4 information that completely contradicts ARCADIS's PAH
 09:49 5 report, for example. Completely contradicts opinions
 09:49 6 that site has been characterized. It's -- ties in
 09:49 7 Monitoring Well No. 8 now because Monitoring Well No. 8
 09:49 8 has in it cis-1,2-DCE. And underneath Madison-Kipp we
 09:50 9 have PCE that breaks down to TCE that breaks down to
 09:50 10 cis-1,2-DCE. So now we have cis-1,2-DCE under
 09:50 11 Madison-Kipp and we have it in Monitoring Well 8.
 09:50 12 So the new data kind of confirms all the things
 09:50 13 that I had said earlier: They don't know the direction
 09:50 14 of the groundwater flow. They don't know what the
 09:50 15 sources are. They have no conceptual model. They have
 09:50 16 no plan to clean up the site. And therefore to conclude
 09:50 17 that there's no risk to the immediate neighbors to this
 09:50 18 facility is unconscionable.
 09:50 19 Q. Is there anything else in Exhibit 2 that impacts
 09:50 20 upon your report, or otherwise, that you've recently
 09:51 21 learned that impacts upon your report in
 09:51 22 Exhibit 1?
 09:51 23 A. I don't think so.
 09:51 24 MR. BERGER: You're talking about the whole
 09:51 25 folder?

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09:51 1 MR. BUSCH: Yeah.
 09:51 2 THE WITNESS: Oh, the whole folder.
 09:51 3 Q. BY MR. BUSCH: Yeah.
 09:51 4 A. Or excuse me. I'm talking 2A.
 09:51 5 Q. No, Exhibit 2.
 09:51 6 A. If I could go on to the next --
 09:51 7 Q. Yes.
 09:51 8 A. -- item.
 09:51 9 And that would be this one, sir.
 09:51 10 Q. Okay. And what's the date of that?
 09:51 11 A. This is --
 09:51 12 2B.
 09:51 13 (Exhibit 2B was marked for identification.)
 09:51 14 MS. ROSS: John, what's the cover part of
 09:51 15 that say?
 09:51 16 MR. BERGER: There's a Bates number of
 09:51 17 MK024111. I believe this is an excerpt from the PCB
 09:51 18 cleanup report that was submitted in December.
 09:52 19 MR. WEISS: We're marking this as
 09:52 20 exhibit...?
 09:52 21 MR. BUSCH: 2B.
 09:52 22 MR. WEISS: Thank you.
 09:52 23 Q. BY MR. BUSCH: How does Exhibit 2B impact upon
 09:52 24 the report previously submitted as Exhibit 1?
 09:52 25 A. If I could turn, sir, to this figure here --

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09:52 1 Q. Yes.
 09:52 2 A. -- in that report.
 09:52 3 Q. The map?
 09:52 4 A. There's actually two of them but --
 09:52 5 Q. Right.
 09:52 6 A. -- but this particular one, sir, which is
 09:52 7 entitled Proposed Excavation Areas.
 09:52 8 Q. Yes.
 09:52 9 A. And this is going to be for PCE -- no, for PCBs.
 09:52 10 Q. Right.
 09:52 11 A. And the point that I want to make is that this
 09:52 12 figure put together by ARCADIS indicates that along the
 09:52 13 complete extent of the Waubesa side of the Madison-Kipp,
 09:52 14 they're going to be digging up contaminated soil PCBs
 09:52 15 they're going to be digging it up.
 09:53 16 Now, my point is that we have clients adjacent to
 09:53 17 Madison-Kipp in unbelievable proximity. I could
 09:53 18 probably reach over the fence at Madison-Kipp and touch
 09:53 19 these homes.
 09:53 20 But my point is that along this area here, which
 09:53 21 is in the backyards of our clients, 241 Waubesa,
 09:53 22 245 Waubesa, and all the way down there. What we have
 09:53 23 is the ARCADIS folks are going to come in and they're
 09:53 24 going to start digging up these peoples' backyards
 09:53 25 because of the PCB. In each of the yards, they're going

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09:54 1 to 20 dig slogs that are 40 feet long, 10 feet wide, and
 09:54 2 4 feet deep. That is a huge excavation from the
 09:54 3 backyard of these homes. Now, they're doing that
 09:54 4 because of the risk.
 09:54 5 And the part that bothers me a lot is that in
 09:54 6 each case, the digging in each one of these folks' homes
 09:54 7 stops where the last two borings are; which begs the
 09:54 8 question: If they'd put another boring in, would they
 09:54 9 be digging more?
 09:54 10 So these homes have not been characterized and
 09:54 11 therefore basing this huge amount of excavation on
 09:54 12 obviously incomplete data doesn't make sense to me. The
 09:54 13 homes need to be characterized more.
 09:55 14 The other point that I want to make is that the
 09:55 15 PCBs, that was the question: How did they get there?
 09:55 16 And we're saying that the PCBs were included in the
 09:55 17 hydraulic fluids. I think everybody's agreed with that.
 09:55 18 Nobody's disagreed with that.
 09:55 19 So if the PCBs got there, why aren't they looking
 09:55 20 at the hydraulic fluids, rather than looking at
 09:55 21 hydraulic fluids, called the PAHs, ARCADIS is saying
 09:55 22 they're not ours. So it's completely illogical to say
 09:55 23 the PCBs got there from hydraulic fluids and the
 09:55 24 hydraulic fluids are not ours. Much that's illogical.
 09:55 25 I walked that area. I took pictures in that

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09:55 1 area. I concluded that up at the north here were huge
 09:56 2 fans that were absolutely black with tars, i.e., these
 09:56 3 hydraulic fluids. These fans kicked out this
 09:56 4 contamination. And as a result, the source, in my mind,
 09:56 5 is clear. And the source is not just for PCBs but for
 09:56 6 PAHs that ARCADIS is completely denying is associated
 09:56 7 with Madison-Kipp.
 09:56 8 Q. Directing your attention again to Exhibit 2, are
 09:56 9 there other matters on there, in there, that impact upon
 09:56 10 your opinion set forth in Exhibit 1?
 09:56 11 A. Just taking these, sir, in no particular order,
 09:56 12 the next item is --
 09:56 13 Q. Why don't you give it to me and I'll --
 09:56 14 A. Yes, sir.
 09:57 15 MR. BUSCH: Would you mark as Exhibit 2C.
 09:57 16 (Exhibit 2C was marked for identification.)
 09:57 17 Q. BY MR. BUSCH: Let me show you what's been marked
 09:57 18 Exhibit 2C and ask you how that -- first of all, can you
 09:57 19 identify; and second of all, how does that impact upon
 09:57 20 the report that you rendered on December 3rd?
 09:57 21 A. I identified this item, sir, as a document that
 09:57 22 we put together, and we put it together in concert with
 09:57 23 personal phone calls with folks from the Madison Water
 09:57 24 Utility. And it speaks to the location of Monitoring
 09:57 25 Well 8 in the location of Madison-Kipp. And it clearly

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09:57 1 shows that Monitoring Well 8 is pulling water from
 09:57 2 Madison-Kipp. We already know that Monitoring Well 8
 09:58 3 has cis-1,2-DCE.
 09:58 4 Further, in discussions with the Madison Water
 09:58 5 Utility, we know that there was high concern based on
 09:58 6 the old numbers that we had for PCE.
 09:58 7 And this figure right here, which is Table 4-1,
 09:58 8 site map number 18, which is Madison-Kipp, the threat of
 09:58 9 the water supply is seen as high based on the old data.
 09:58 10 I don't know how much superlatives you could put on
 09:58 11 there now, but it's going to be a very, very high
 09:58 12 concern.
 09:58 13 And so I know that Madison-Kipp wants to turn on
 09:59 14 that well. They're not turning on the well because of
 09:59 15 risk with this new data. I think that risk will be
 09:59 16 there for the foreseeable future.
 09:59 17 MR. BERGER: You said Madison-Kipp wants to
 09:59 18 turn on that well.
 09:59 19 THE WITNESS: Forgive me. The --
 09:59 20 Q. BY MR. BUSCH: -- City of --
 09:59 21 A. Yeah, City of Madison. Thank you, John.
 09:59 22 Q. Directing your attention, again, to Exhibit 2,
 09:59 23 are there items in there that further impact upon your
 09:59 24 opinion set forth in Exhibit 1?
 09:59 25 MR. BERGER: Back on this stack.

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09:59 1 MR. BUSCH: Yeah.
 09:59 2 Q. BY MR. BUSCH: Have you finished your discussion
 09:59 3 in regards to 2C, how it impacted your opinion?
 09:59 4 A. Only with respect that this figure here, sir,
 09:59 5 which shows the depth of Monitoring Well 8 which --
 09:59 6 Q. Yes.
 09:59 7 A. -- 250 feet. And we know that the contamination
 09:59 8 is getting down 250 feet. But we know that, at least I
 10:00 9 don't recall any of the ARCADIS'S wells getting down
 10:00 10 that far. So it's clear to me that the bottom of the
 10:00 11 contamination has not been determined at Madison-Kipp in
 10:00 12 the four new wells.
 10:00 13 Below about 120 to 150 feet, there was, again,
 10:00 14 reduction in the concentration. But I don't believe any
 10:00 15 of those wells got to a point where the contamination
 10:00 16 was not a factor.
 10:00 17 (Interruption at the door.)
 10:00 18 Q. BY MR. BUSCH: Do you have any -- are there other
 10:00 19 items contained in the large Exhibit 2 that impact upon
 10:00 20 or otherwise relate to a supplementation to your
 10:00 21 December 3rd, 2012 opinion?
 10:00 22 A. Yes, I do, sir.
 10:01 23 And I was wondering if this would be a good time
 10:01 24 to take a break.
 10:01 25 MR. BUSCH: You control it.

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10:01 1 THE WITNESS: Thank you, John.

10:01 2 THE VIDEOGRAPHER: Just a minute, please.

10:01 3 We are off the record at 10:01 a.m.

10:01 4 (Recess taken: 10:01 a.m. to 10:12 a.m.)

10:12 5 THE VIDEOGRAPHER: We are back on the record

10:12 6 in the continuing deposition of Lorne G. Everett, Ph.D.

10:12 7 at 10:12 a.m.

10:12 8 Q. BY MR. BUSCH: Dr. Everett, referencing again

10:13 9 Exhibit 2C, I believe you stated that you worked with

10:13 10 persons at the Madison Water Utility in regard to

10:13 11 that -- did you work with them in regard to the creation

10:13 12 of 2C?

10:13 13 A. Working is too strong. I called them.

10:13 14 Q. And with whom did you speak?

10:13 15 A. A guy by the name of, I believe it was Grand or

10:13 16 Grande. And I believe his name is in my documents

10:13 17 there.

10:13 18 But there's been a number of discussions with

10:13 19 Madison Water Utility, in fact, the City of Madison both

10:13 20 through Jorge Matos and, I believe, Dr. Wells. But

10:13 21 there's been a number of inquiries made to the City of

10:13 22 Madison on this particular well.

10:13 23 Q. Okay. Directing your attention again to the

10:13 24 large group of documents set forth in Exhibit 2, are

10:14 25 there any -- do any of the other documents contained in

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10:14 1 Exhibit 2 impact the opinions rendered in Exhibit 1?

10:14 2 A. Yes, sir. And paragraph inaudible paragraph.

10:14 3 Um...

10:14 4 The figure entitled PCB, sir.

10:14 5 MR. BUSCH: Thank you.

10:14 6 We will mark that.

10:14 7 (Exhibit 2D was marked for identification.)

10:15 8 Q. BY MR. BUSCH: Let me show you what's been marked

10:15 9 as Exhibit 2D which you referenced as having an impact

10:15 10 upon your opinions set forth in Exhibit 1.

10:15 11 A. Okay.

10:15 12 Q. Will you please identify that and explain to me

10:15 13 that how, if at all, it impacts upon your opinions set

10:15 14 forth in Exhibit 1.

10:15 15 A. Yes, sir. This is a kind of a hand-drawn

10:15 16 super-position of PCB results and their locations on an

10:15 17 ARCADIS map, sir.

10:15 18 Q. Okay.

10:15 19 A. And what it shows is that PCB at very high

10:15 20 concentrations are found at multiple locations

10:15 21 underneath Madison-Kipp.

10:15 22 And to put this in perspective, of all the

10:15 23 chemicals that we'll be talking about today, PCBs has

10:15 24 the highest risk. The -- for example, contact number,

10:16 25 human health contact number for PCB is .7; 7. And under

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10:16 1 this facility we have concentrations of 20,000; 10,000;

10:16 2 12,000. So we have huge PCB contamination under

10:16 3 Madison-Kipp. And it's in the water. So it's got all

10:16 4 the way down to the water. My point is that PCBs,

10:16 5 because of their very nature, can only be remediated --

10:16 6 I shouldn't say can only be -- most often remediated by

10:17 7 excavation. And I don't think that Madison-Kipp is

10:17 8 going to dig up their facility. And as a result, these

10:17 9 concentrations say to me that Madison-Kipp will have a

10:17 10 deed restriction on that property forever. And that

10:17 11 means that there is going to be a high source of a very

10:17 12 toxic material at this facility forever.

10:17 13 Q. Directing your attention again to Exhibit 2, the

10:17 14 large exhibit.

10:17 15 A. Yes, sir.

10:17 16 Q. Is there -- are there other documents that impact

10:17 17 upon the opinion that you gave in Exhibit 1?

10:17 18 A. Yes, sir. Number one, identified benzo(a)pyrene.

10:17 19 (Exhibit 2E was marked for identification.)

10:18 20 Q. BY MR. BUSCH: Let me show you what's been marked

10:18 21 as Exhibit 2E and ask if you can identify that.

10:18 22 A. Yes, sir.

10:18 23 Q. And how does Exhibit 2E impact on your opinion?

10:18 24 A. Exhibit 2E is a hand drawn representation of the

10:18 25 more recent benzo(a)pyrene samples underneath

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10:18 1 Madison-Kipp facility. And the significance is that in

10:18 2 the PAH document put together by ARCADIS, they said that

10:18 3 there isn't any evidence of benzo(a)pyrene in any of the

10:18 4 productions used at Madison-Kipp and therefore,

10:19 5 Madison-Kipp cannot be the source of the contamination

10:19 6 in these folks' yards.

10:19 7 In every one of the Class yards there's

10:19 8 benzo(a)pyrene. And what this map shows is clearly it's

10:19 9 underneath Madison-Kipp. So it means that ARCADIS's

10:19 10 position is wrong.

10:19 11 Secondly, the ARCADIS PAH study said that

10:19 12 Madison-Kipp is an naphthalene site. Some of this data

10:19 13 doesn't show naphthalene. So that means that principal

10:19 14 component analysis, the fingerprinting, is completely

10:19 15 wrong, analysis and that is here to show that.

10:20 16 Q. Is there -- are there other documents contained

10:20 17 in Exhibit 2 that impact upon your opinion as set forth

10:20 18 in Exhibit 1?

10:20 19 A. Yes, sir. There is the hand drawn figure

10:20 20 referred to as PCE.

10:20 21 (Exhibit 2F was marked for identification.)

10:20 22 Q. BY MR. BUSCH: Let me show you what's been marked

10:20 23 as Exhibit 2F and ask if you can identify that and

10:20 24 explain to me how that impacts upon your opinions set

10:20 25 forth in Exhibit 1?

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10:20 1 A. Yes, sir. The hand drawn numbers are simply the
10:20 2 PCE concentrations in the soil. And what shows is that
10:20 3 there is PCE under the Madison-Kipp building. But it
10:21 4 is -- I would say, high but not that high, meaning that
10:21 5 the DNAPL condition is huge and the PCE concentrations
10:21 6 under the building are not that huge.
10:21 7 And therefore, what it says to me is that the
10:21 8 PCE contamination in the deep groundwater was caused by
10:21 9 employees dumping PCE by buckets out the door and by
10:21 10 leakage from the PCE aboveground storage tank.
10:21 11 And so what it says that it really wasn't leakage
10:22 12 that caused the problem, it was intentional dumping that
10:22 13 caused the problem.
10:22 14 Q. Anything else in Exhibit 2 which impacts upon the
10:22 15 opinion you gave in Exhibit 1?
10:22 16 A. Yes, sir. If I could show this grouping of
10:22 17 documents that speak to the backup for the four wells
10:22 18 that we've been discussing, sir.
10:23 19 (Discussion held off the record.)
10:23 20 THE WITNESS: So if we could begin with this
10:23 21 one, sir, Monitoring Well 13.
10:23 22 Q. BY MR. BUSCH: Why don't we mark them all at the
10:23 23 same time.
10:23 24 A. Yes, sir.
10:23 25 Q. That way you can go uninterrupted.

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10:23 1 A. Thank you.
10:24 2 MR. BUSCH: 2G is MW13; 2H is MW17; 2I is
10:24 3 MW15; 2J is MW14; and 2K is MW16.
10:24 4 (Exhibit 2G through 2K were marked for
10:24 5 identification.)
10:24 6 MR. WEISS: Could you run by those one more
10:24 7 time a little slower.
10:24 8 MR. BUSCH: Yes. G is 13.
10:24 9 MR. WEISS: Okay.
10:24 10 MR. BUSCH: H is 17.
10:24 11 I is 15.
10:24 12 Excuse me.
10:24 13 I said G.
10:24 14 H is 17.
10:24 15 I is 15.
10:24 16 J is 14.
10:25 17 And K is 16.
10:25 18 MR. BERGER: I is 15?
10:25 19 MR. BUSCH: I is 15.
10:25 20 MR. BERGER: J is 14?
10:25 21 MR. BUSCH: J is 14.
10:25 22 MR. BERGER: K is 16?
10:25 23 MR. BUSCH: K is 16.
10:25 24 Q. BY MR. BUSCH: Let me show you exhibits 2G
10:25 25 through 2K.

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10:25 1 A. Yes, sir.
10:25 2 Q. Would you identify generally what those documents
10:25 3 are and how they impact upon the opinions set forth in
10:25 4 Exhibit 1.
10:25 5 A. These are a series of five documents that talk in
10:25 6 terms of the five wells that were drilled to depth.
10:25 7 It talks in terms of general site.
10:25 8 It talks in terms of groundwater results.
10:25 9 It talks about the geophysical logging tools.
10:26 10 And it describes what -- what, at least, ARCADIS
10:26 11 feels is what's going on at each one of these wells.
10:26 12 And since the -- each one of these -- well, not
10:26 13 each one of them but the majority of them, I'm going to
10:26 14 be talking about DNAPL.
10:26 15 I would make the comment that I'm on the
10:26 16 Interagency DNAPL Consortium board made up of NASA, made
10:26 17 up of the Department of Defense, and the Department of
10:26 18 Energy, and EPA. And at the Interagency DNAPL national
10:26 19 test site, we've looked at all of the technologies that
10:26 20 one would consider in cleaning up sites like this. So
10:27 21 I'm very familiar with the DNAPL.
10:27 22 Secondly, I've written some of the seminal papers
10:27 23 on DNAPL characterization.
10:27 24 And third, I've run a laboratory for 15 years
10:27 25 where I've looked at my creation of these contaminants.

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10:27 1 So I feel comfortable talking about these results, sir.
10:27 2 Beginning with Exhibit 2G, which refers to
10:27 3 Monitoring Well 13, which was the well onsite, what is
10:27 4 important, first of all, in this document, is the very
10:27 5 first bullet point. And I would indicate that that very
10:27 6 first bullet point we see in every one of these
10:27 7 documents.
10:27 8 What it says -- and I will read it: "There is
10:27 9 not a consistent groundwater flow direction in the
10:27 10 bedrock."
10:27 11 And so what that says is that at every one of
10:28 12 these sites, all five of them, they don't know where the
10:28 13 groundwater's flowing.
10:28 14 Q. What's the date of that document?
10:28 15 A. It's dated, sir, October the 31st.
10:28 16 Q. Of what year?
10:28 17 A. 2012.
10:28 18 Q. Okay.
10:28 19 A. And so what it says is 19 years after
10:28 20 Madison-Kipp was required to show the vertical and
10:28 21 horizontal distribution of contamination and the
10:28 22 groundwater flow, 19 years later, at every one of these
10:28 23 new wells which are highly contaminated they have no
10:28 24 idea what the direction is.
10:28 25 Secondly what it says is that this very high --

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10:28 1 Q. Let me stop you right there. Do you have -- as
10:28 2 you sit here today, do you have an opinion as to the
10:28 3 direction?
10:28 4 Or have you done any to work ascertain the
10:28 5 direction?
10:28 6 A. What I would have done is I would have done a
10:28 7 number of things related to looking for DNAPL. I would
10:29 8 have done a fracture analysis. That has been proposed;
10:29 9 no one seems to want to talk about it.
10:29 10 I would have put in more wells down at the depths
10:29 11 of where this high contamination is. These are deep
10:29 12 wells. The earlier deep wells didn't go in deep, so
10:29 13 they've missed the contamination.
10:29 14 So the hottest well appears to be right
10:29 15 in -- right in Madison-Kipp's property which was a
10:29 16 complete surprise I would think to them because they
10:29 17 haven't characterized it.
10:29 18 But my point is that the highest PCE
10:29 19 concentration was reported from 80 to 90 feet below the
10:29 20 ground surface at 5,700 micrograms per liter, and from
10:29 21 120 to 130 feet below the land surface at
10:30 22 9,400 micrograms per liter. So that's very deep in my
10:30 23 opinion. Those are twice as high as everything we've
10:30 24 ever seen at the site.
10:30 25 But more important, it says that the high

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10:30 1 concentration is moving in certain zones. So that says
10:30 2 you not only have to figure out where the general
10:30 3 groundwater is flowing but where the flow is taking
10:30 4 place in each one of these zones. And that's a complex
10:30 5 thing to do. And certainly hasn't been done to date.
10:30 6 Q. Have you done any work to ascertain the flow?
10:30 7 A. I have not, sir.
10:30 8 Q. Okay. I didn't mean to interrupt.
10:30 9 Are there other, um, aspects of those exhibits I
10:31 10 recently handed you, which are 2G through K that impact
10:31 11 upon your opinions set forth in Exhibit 1?
10:31 12 A. Yes, sir. It's just that these wells really
10:31 13 aren't quite deep enough. They've got to go deeper.
10:31 14 The next exhibit would be 2H, Exhibit 2H. And
10:31 15 this is all the backup information for Monitoring
10:31 16 Well 17.
10:31 17 The first bullet says "There is not a consistent
10:31 18 groundwater flow in the bedrock," which means at the
10:31 19 southern most well, they don't know the water flow
10:31 20 direction. And this is off site, under neighboring
10:32 21 properties, and leading to where the City's Monitoring
10:32 22 Well 8 is. So they don't know the flow direction.
10:32 23 Secondly, it says that the contamination is, once
10:32 24 again, distributed. And that the highest PCE
10:32 25 concentration is in the bedrock, which is fractured

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10:32 1 bedrock -- and that's important -- was observed from
10:32 2 120 to 170 feet. And that's almost offsite, 170 feet.
10:32 3 And the concentrations, the highest concentrations were
10:32 4 reported from 120 to 130 feet at 750 micrograms per
10:32 5 liter.
10:33 6 And then they had another high pulse at a 140 to
10:33 7 150 feet at 810 micrograms per liter, which means it is
10:33 8 getting more and more concentrated depth.
10:33 9 And third it says that from 160 to 170 feet, the
10:33 10 concentration is 1,700 micrograms per liter. And that's
10:33 11 going off -- that's off site. That is off site.
10:33 12 Now, the MCL for PCE at Monitoring Well 8 is
10:33 13 going to be 5. The MCL for PCE is 5. And going off
10:33 14 site, we're at 1,700 micrograms per liter.
10:33 15 The reason this is important is that Mr. Johnson
10:33 16 said that the groundwater -- that the PCE concentrations
10:33 17 as you go deeper get less and less and less and less.
10:34 18 Well, this data completely refutes that. That's simply
10:34 19 wrong. As we can see here. Concentration as you go
10:34 20 deeper is getting higher. And I don't think they've
10:34 21 even got to the bottom of it.
10:34 22 The next one, if I may, sir.
10:34 23 Q. Yes, please.
10:34 24 A. Is 2I. And it speaks to a Monitoring Well 15,
10:34 25 and Monitoring Well 15 is to the north. And Monitoring

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10:34 1 Well 15 is located in the 5 parts per billion range.
10:34 2 However, this recent data says that the
10:35 3 concentration from 80 to 90 feet is 3,600 micrograms per
10:35 4 liter and continues to go down.
10:35 5 So my point is that this well is hugely more
10:35 6 contaminated than was expected to be in the past and
10:35 7 will result in completely redrawing these figures and
10:35 8 completely --
10:35 9 Q. And you're referring to Exhibit 2A?
10:35 10 A. Yes, sir.
10:35 11 And clearly shows that very high concentrations
10:35 12 at a very deep depth are now on the other side of the
10:35 13 Goddard Community Center, on the other side of the
10:35 14 community center. And it says that there is going to
10:35 15 have to be, in my estimation, cut-off barriers or
10:36 16 injection wells pump and treat to control the plume. A
10:36 17 number of things now need to be done way to the north
10:36 18 under private property. That's going to be expensive
10:36 19 and very controversial.
10:36 20 Q. When you say cut-off, do you have a particular
10:36 21 technology in mind in regard to the cut-off of which you
10:36 22 speak?
10:36 23 A. I do, sir.
10:36 24 Q. And what is that?
10:36 25 A. I believe that the cut-off technology that we've

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10:36 1 seen in the past will either be a pump and treat, which
 10:36 2 is only a containment technology, to keep it from, the
 10:36 3 plume, from going further and further and further.
 10:36 4 Q. And is pump and treat -- when you say it's
 10:37 5 a -- it's a, I believe you said cut-off, is it in
 10:37 6 conjunction with another remediation technique?
 10:37 7 A. I think very much.
 10:37 8 Q. And what would that remediation technique be?
 10:37 9 A. There are different ones that are out there. But
 10:37 10 in all probability, they will try to burn all this
 10:37 11 contamination out of the fractured rock. And as I've
 10:37 12 indicated, that's a difficult thing to do at these
 10:37 13 depths and in these areas.
 10:37 14 Q. And that tech- -- you mentioned that technology
 10:37 15 previously in the deposition. Can you -- does that have
 10:37 16 a name other than burning the contaminate in the
 10:37 17 fractured rock? Does it have a recognized name?
 10:37 18 A. It does.
 10:37 19 Q. And what is name again?
 10:37 20 A. Institute chemical oxidation using in all
 10:38 21 probability, potassium permanganate, sir.
 10:38 22 Q. And that's currently in the pilot program;
 10:38 23 correct?
 10:38 24 A. I believe that is it post. And I believe that
 10:38 25 that is a reasonable technology, sir.

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10:38 1 Q. So the impact of the migration north in the deep
 10:38 2 groundwater, my terms --
 10:38 3 A. Yes.
 10:38 4 Q. -- and in the fractured rock, as you see it, is
 10:38 5 that the pumping would be used as a blockage while the
 10:38 6 in-situ chemical technique was used to address the PCE?
 10:38 7 A. I would agree with half of that, sir.
 10:38 8 Q. Okay.
 10:38 9 A. I guess I'll agree with the cut-off wells being
 10:38 10 the blockage.
 10:38 11 Q. Okay.
 10:38 12 A. But the in-situ chemical oxidation, I believe,
 10:38 13 would mostly be to knock the mass down to try to get the
 10:39 14 concentrations down, because they're so very high.
 10:39 15 Do I think that that will be successful, that
 10:39 16 they will get those concentrations down to MCLs? It's
 10:39 17 never happened in America to get it down to MCLs when
 10:39 18 you have a DNAPL.
 10:39 19 So I think it's a good idea. But I think that
 10:39 20 this groundwater resource is damaged for the foreseeable
 10:39 21 future.
 10:39 22 Q. Okay.
 10:39 23 A. The next one, sir, is Exhibit 2K, and it speaks
 10:39 24 to Monitoring Well 16. And Monitoring Well 16 is
 10:39 25 located over in the Class Area.

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10:39 1 And what this well says to me is that --
 10:40 2 Q. Monitoring Well 17, that's a deep groundwater
 10:40 3 monitoring well?
 10:40 4 A. Yes, sir.
 10:40 5 Q. Okay.
 10:40 6 A. It's location is on the eastern side of the Class
 10:40 7 Area, so it is beyond the Class Area. And so this well
 10:40 8 represents contamination that is below all of these
 10:40 9 families's homes. And the concentration in Monitoring
 10:40 10 Well 16 is 430 parts per billion at 120 feet.
 10:40 11 Now, I will read to you what it says. It says,
 10:40 12 (as read): "The highest PCE concentration was reported
 10:40 13 from 90 to a hundred -- from 90 to 100 at 140 micrograms
 10:40 14 per liter and 110 to 120 feet at 430,000 parts per
 10:41 15 liter." Now, what that says is that it's almost three
 10:41 16 times as contaminated as you go down.
 10:41 17 That's completely opposite to what Mr. Johnson
 10:41 18 said. Mr. Johnson said that the concentration gets
 10:41 19 smaller and smaller, the problem gets smaller and
 10:41 20 smaller as you go down. This clearly shows that's
 10:41 21 wrong.
 10:41 22 Further, I would indicate in that, the number one
 10:41 23 bullet, at the top and I'll read it. It says, "There is
 10:41 24 not a consistent groundwater flow direction in the
 10:41 25 bedrock."

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10:41 1 What that says is that underneath the Class Area
 10:41 2 homes, ARCADIS has no idea what direction the
 10:41 3 contamination is going. And therefore, I think that's
 10:41 4 shocking to find out, you know, 19 years after they were
 10:41 5 supposed to have done this.
 10:42 6 Q. Are there other documents in Exhibit 2 which
 10:42 7 impact upon your opinion as set forth in Exhibit 1?
 10:42 8 A. There are, sir.
 10:42 9 (Exhibit 2L was marked for identification.)
 10:42 10 Q. BY MR. BUSCH: Let me show what what's been
 10:42 11 marked as Exhibit 2L. Ask you to identify that, please.
 10:42 12 A. Yes, sir. Exhibit 2L is a Handbook of Vapor
 10:42 13 Degreasing put together by ASTM of the American Society
 10:42 14 for Testing and Materials.
 10:42 15 I should mention that I was on the board of
 10:42 16 directors of ASTM. I've been a chairman of an ASTM
 10:43 17 committee on groundwater and vapors monitoring for
 10:43 18 15 years. My committee is D18.21.02. I'm a fellow of
 10:43 19 ASTM, which is the highest honor they bestow.
 10:43 20 And the reason that I am showing this is because
 10:43 21 this is a reference that was made by Mr. Johnson who
 10:43 22 completely misinterpreted the ASTM document.
 10:43 23 Q. How so?
 10:43 24 A. Mr. Johnson expressly said that it was perfectly
 10:43 25 acceptable for these maintenance employees at

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10:43 1 Madison-Kipp to take these buckets of free product, or
10:43 2 liquid PCE, and throw it out the door.
10:44 3 I stood in that doorway. I don't know if others
10:44 4 have. But, I could take a glass of water and throw it
10:44 5 out and hit the house next door. That's how close it
10:44 6 is.
10:44 7 When you stand in that doorway, the ground
10:44 8 clearly slopes into the backyard of these homes. So
10:44 9 every time it rains all the water by that backdoor goes
10:44 10 right into the neighbors' yards.
10:44 11 So I think it is highly irresponsible for anyone
10:44 12 to take a very toxic material and throw it out as a free
10:44 13 product in a backdoor as supported by Mr. Johnson.
10:44 14 And so once again, he said it was standard
10:44 15 practice. But I would like to actually read the
10:45 16 document to show you where he's coming from.
10:45 17 And if I could, on the last page, which is
10:45 18 page 33, it says (as read): "If there are no local
10:45 19 regulations forbidding it, the sludge may be poured on
10:45 20 the dry ground at a safe distance from buildings and
10:45 21 allowed to evaporate. If the sludge is
10:45 22 free-flowing --"
10:45 23 Meaning it's in the bucket; it's a liquid; it's
10:45 24 free flowing.
10:45 25 " -- and can soak into the ground -- "

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10:45 1 Well, it's a the ground surface, so clearly it's
10:45 2 going to soak in the ground.
10:45 3 " -- before the solvent evaporates, it may be
10:45 4 poured into shallow containers to permit the solvent to
10:45 5 evaporate before dumping."
10:45 6 So the standard said if you're going to dump free
10:45 7 product in an area where it's going to go down really
10:45 8 fast, you need to put it on a pan so it will evaporate.
10:46 9 What actually happened is they took the free
10:46 10 product, they dumped it on the gravel, it went straight
10:46 11 down, and that's the reason we're here today.
10:46 12 So Mr. Johnson's interpretation of his own
10:46 13 reference is simply wrong.
10:46 14 Q. Is there anything else in Exhibit 2 that impacts
10:46 15 upon the opinion you rendered in Exhibit 1?
10:46 16 A. I don't believe so, sir.
10:46 17 Q. Now, in addition to the materials that were
10:46 18 contained in Exhibit 2, you stated there are, I think
10:46 19 you said there were observations or thoughts.
10:46 20 Have we exhausted those in regard to the
10:46 21 discussions associated with Exhibit 2?
10:46 22 A. I would like to bring up a couple of things, if I
10:46 23 might, sir.
10:46 24 And, um, in this exhibit here, which is
10:47 25 Exhibit 2B, as I'd mentioned I walked this area and I

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10:47 1 took these pictures and I did my own calculations. And
10:47 2 what it shows is that Madison-Kipp is going to be
10:47 3 digging up a large part of these peoples' backyard.
10:47 4 It's 40 feet long, 10 feet wide, and 4 feet deep. Those
10:47 5 are enormous holes in folks' backyard.
10:47 6 And I believe that I'm correct that this came
10:47 7 from the big fans up here. And I took pictures of those
10:47 8 big fans. They're all big -- they're covered in tar
10:47 9 from this material coming up through those vents. And
10:47 10 that means that it's air blown particulates.
10:48 11 And I think, at the minimum, we need to start
10:48 12 looking inside these homes for the particulates. I
10:48 13 mean, if it's contaminating the soil down 4 feet, I'm
10:48 14 sure it's going in the windows. So I think there needs
10:48 15 to be a much more intensive characterization program of
10:48 16 the soil and what might be in the houses that these
10:48 17 folks would be exposed to.
10:48 18 The other comment that I would make, sir, has to
10:48 19 do with what I learned this morning, and that is there
10:48 20 are wells that I didn't know about that are underneath
10:48 21 Madison-Kipp. And it shows that the PCE is degrading.
10:48 22 It shows that PCE is degrading from PCE to TCE to
10:49 23 cis-1,2-DCE.
10:49 24 It says that it is doing it because the PCE is
10:49 25 associated with petroleum hydrocarbons, and that's

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10:49 1 evidenced by the benzene concentrations underneath the
10:49 2 building. Under anaerobic conditions, microbes will
10:49 3 co-metabolize PCE in the presence of petroleum
10:49 4 hydrocarbons, i.e., benzene.
10:49 5 What that says is the logical progression now is
10:49 6 PCE, TCE, cis-1,2-DCE, and then final chloride. Final
10:49 7 chloride is a human carcinogen. No one argues against
10:49 8 that. If these chemicals go to final chloride, the
10:50 9 risks will go through the roof.
10:50 10 The obvious question is, then, why didn't anybody
10:50 11 do a human health risk assessment in Madison-Kipp? I
10:50 12 think it is a complete red herring to do a risk
10:50 13 assessment in the homes and use the terminology "eminent
10:50 14 and substantial risk to human health and the
10:50 15 environmental." To use that terminology in the homes is
10:50 16 completely misplaced, and I've never seen that done in
10:50 17 my career. That terminology is for Madison-Kipp. That
10:50 18 is the source of the contamination. That's where the
10:50 19 risk is. That's where that terminology makes sense.
10:50 20 Yet, when Dr. Beck did her analysis, didn't even
10:51 21 look at the risks associated with Madison-Kipp. And
10:51 22 Madison-Kipp hasn't done a thing, in my estimation, to
10:51 23 protect their own employees.
10:51 24 Q. Anything else, um, that -- observations and
10:51 25 thoughts which can -- which you have in regard to

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10:51 1 supplementation of Exhibit 1?

10:51 2 A. I don't believe so, sir.

10:51 3 Q. Okay. Directing your attention to page 1 of

10:51 4 Exhibit 1.

10:51 5 Um, you at the second paragraph you indicate that

10:52 6 in drafting this report you relied upon your education

10:52 7 expertise in environmental science and hydrology.

10:52 8 Do you see that?

10:52 9 A. I do, sir.

10:52 10 Q. What is hydrology?

10:52 11 A. Hydrology is the study of water, including the

10:52 12 biological chemical and physical attributes of water as

10:52 13 it moves along the land surface and in the

10:52 14 subsurface -- and in the subsurface.

10:52 15 Q. Is -- is hydrology a discipline separate from

10:52 16 hydrogeology?

10:52 17 A. I believe it is, sir.

10:52 18 Q. And what is hydrogeology? And if you can, in so

10:52 19 discussing it, can you differentiate between

10:52 20 hydrogeology and hydrology.

10:52 21 A. I believe hydrology deals with the attributes of

10:53 22 water at the land surface and in the subsurface but

10:53 23 hydrogeology focuses on the subsurface.

10:53 24 Q. Do you, um, consider yourself an expert in

10:53 25 hydrogeology?

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10:53 1 A. I'm a registered hydrogeologist by the American

10:53 2 Institute the Hydrology. I have been on the board of

10:53 3 registration for the American Institute of Hydrologists.

10:53 4 So I personally have, responsible for evaluating

10:53 5 hydrogeologists who want to get registered.

10:53 6 I am formally a professor of hydrology at the

10:53 7 University of Arizona where I taught hydrology and

10:53 8 hydrogeology.

10:53 9 I have been the director of Vadose bore

10:54 10 monitoring at the University of California for over

10:54 11 15 years where the total focus was on hydrogeology.

10:54 12 I've written extensively on hydrogeology.

10:54 13 And so I have a, 40 years of working in the arena

10:54 14 of hydrogeology, sir.

10:54 15 Q. But do you consider yourself an expert in

10:54 16 hydrogeology?

10:54 17 A. I do, sir.

10:54 18 Q. Do you hold any certifications by any state

10:54 19 licensing authorities in hydrogeology?

10:54 20 A. I have a national registration as I mentioned

10:54 21 with the American Institute of Hydrology.

10:54 22 I'm a certified groundwater professional by the

10:54 23 National Association of Groundwater Scientists and

10:55 24 Engineers. Um, the highest registration in California

10:55 25 is an REA II which I held. And that deals with

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10:55 1 sensitive sites such as hospitals, schools, daycare

10:55 2 centers, where I have that registration that was

10:55 3 bestowed by the State of California.

10:55 4 So I do have state registration, sir.

10:55 5 Q. Do you have state registration as a

10:55 6 hydrogeologist?

10:55 7 A. I do not have state registration as a

10:55 8 hydrogeologist; that's correct.

10:55 9 Q. Do you have state registration as a geologist?

10:55 10 A. I do not.

10:55 11 Q. Did you render the opinion set forth in Exhibit 1

10:55 12 in the state of California?

10:55 13 A. I did.

10:56 14 Q. You did?

10:56 15 A. Yes.

10:56 16 Q. Are you -- do you consider yourself an expert in

10:56 17 toxicology?

10:56 18 A. I deal with toxicological issues and have for

10:56 19 decades. Whether we're talking toxical impacts of

10:56 20 benzene or PCE, I have some insights into that. And

10:56 21 that comes into almost daily discussions in my

10:56 22 profession. But I would not say that I'm a

10:56 23 toxicologist, sir.

10:56 24 Q. Do you consider yourself an expert in

10:56 25 epidemiology?

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10:56 1 A. I would not say that, sir.

10:56 2 I would qualify my response, if I might, by

10:56 3 saying that, as I'd indicated earlier, this was a team

10:57 4 effort, and that team effort included Dr. Jim Wells who

10:57 5 is a state registered geologist.

10:57 6 As I indicated, it included Mr. Jorge Matos, who

10:57 7 is a state registered professional engineer.

10:57 8 So all of the opinions in here are the result of

10:57 9 better than a year's collaboration with my team center.

10:57 10 Q. Okay. Do you believe that PAH contamination at

10:58 11 the site is impacting groundwater in any respect?

10:58 12 MR. BERGER: You mean in addition to what

10:58 13 he's just testified about?

10:58 14 MR. BUSCH: I don't know if he testified to

10:58 15 that.

10:58 16 MR. BERGER: I disagree. But he can --

10:58 17 Q. BY MR. BUSCH: Go ahead.

10:58 18 MR. BERGER: -- answer.

10:58 19 THE WITNESS: I believe that the PCBs are in

10:58 20 the hydraulic oils and the PCEs are in the groundwater,

10:58 21 so the answer is, it is the vehicle of the hydraulic

10:58 22 oils that is getting the PCBs down there, sir, so the

10:59 23 answer is yes.

10:59 24 Q. BY MR. BUSCH: That the PAHs are contributing

10:59 25 to -- are the PAHs contributing to the contamination of

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10:59 1 the groundwater?

10:59 2 A. Only in the sense that they're providing the

10:59 3 vehicle for the PCBs to get down there, sir.

10:59 4 Q. And which PAH do you believe is responsible for

10:59 5 that transport?

10:59 6 A. Oh, I think that the PCBs are mixed into the PAHs

10:59 7 so the complex of the PCB and whatever one of the PAHs

10:59 8 is complexing what it is a -- is an appreciation of

10:59 9 chemistry that goes beyond me.

10:59 10 Q. The -- at page 12 --

11:00 11 A. Yes, sir.

11:00 12 Q. You state that the contaminated groundwater which

11:00 13 then migrated from Madison-Kipp site and spread

11:00 14 throughout the Class Area contains PCE concentrations as

11:00 15 high as 4,600.

11:00 16 That's micrograms per liter, sir --

11:00 17 A. Uh...

11:00 18 Q. -- is that right?

11:01 19 Is that how that's expressed?

11:01 20 A. That's correct, sir.

11:01 21 Q. And it says, This contaminated groundwater then

11:01 22 contaminated the, soil, soil vapor and air above it,

11:01 23 including air beneath and inside the homes, in the Class

11:01 24 Area in two ways. First, fine-grained sands caused --

11:01 25 sediments caused the contaminating groundwater to "wick

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11:01 1 up," similar to an ink blotter wicking up ink.

11:01 2 Is the contaminated groundwater of which you

11:01 3 speak at page 12, is that groundwater at any given -- at

11:01 4 a depth? And by that I mean, is that the shallow

11:01 5 groundwater?

11:01 6 A. The number 4,600 micrograms per liter, sir, is an

11:01 7 expression of the deep groundwater contamination. And

11:01 8 the comment related to wicking would be related to the

11:01 9 shallow groundwater contamination that we know exists at

11:02 10 Madison-Kipp.

11:02 11 Q. And is the shallow -- is it -- what I'm getting

11:02 12 to is, is it your opinion that a source of subslab

11:02 13 vapor, PCE vapor, is the shallow groundwater?

11:02 14 MR. BERGER: Can we have a reference? Are

11:02 15 you talking about in the -- under the residences as --

11:02 16 MR. BUSCH: Under the residence.

11:02 17 MR. BERGER: -- or just the building.

11:02 18 MR. BUSCH: Yeah, under the residence.

11:02 19 MR. BERGER: Okay.

11:02 20 THE WITNESS: My position on that, sir, is

11:02 21 that we have PCE indoors. We have PCE in the subslab.

11:02 22 We have PCE in the soil gravel. We have PCE in the

11:02 23 groundwater. And so we have a completed pathway. The

11:02 24 pathway clearly shows that it got from Madison-Kipp into

11:03 25 the houses.

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11:03 1 Now ARCADIS will argue that those numbers

11:03 2 are low. That argument simply makes our point. The

11:03 3 pathway is complete.

11:03 4 My -- But that's not my point. My point is

11:03 5 that as a part of any investigation, you need to do a

11:03 6 conceptual model about how things are happening,

11:03 7 especially with respect to the sources are that driving

11:03 8 things to happen.

11:03 9 So with respect to the PCE under these

11:03 10 homes, as Ms. Trask has indicated, she doesn't know if

11:03 11 it came from the soil; she doesn't know if it comes from

11:03 12 the groundwater; she doesn't know if it's coming from

11:03 13 the soil and gas coming off the operation; she doesn't

11:03 14 know if it was caused by the venting that went on for

11:03 15 all those years that caused this stuff to be

11:04 16 distributed.

11:04 17 She doesn't know where the sources are. And

11:04 18 she freely admitted that. And that's exactly my point.

11:04 19 It doesn't make sense to do a risk analysis when you

11:04 20 don't even know the source of the contamination or the

11:04 21 source of the problem.

11:04 22 Q. BY MR. BUSCH: In your opinion, is the deep

11:04 23 groundwater a source of subslab vapor in the homes --

11:04 24 under the homes in the Class Area?

11:04 25 A. It depends on what you mean by "deep," sir. I

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11:04 1 think that as you get deeper, there is a less likelihood

11:04 2 that you would get vapor instrumentation, for example,

11:04 3 100 or 120 feet.

11:04 4 Q. Anything -- do you believe that, um, groundwater

11:05 5 above 120 feet is a source of vapor at the subslab in

11:05 6 the Class Area?

11:05 7 A. I really don't think so, sir. But my point is

11:05 8 that we simply don't know what the concentrations are.

11:05 9 Q. But what -- at what depth do you believe, at its

11:05 10 lowest, the groundwater contributes to the vapor in the

11:05 11 subslabs in the homes in the Class Area?

11:05 12 A. Well, the work hasn't been done to show that.

11:05 13 And Ms. Trask readily admits that.

11:05 14 Q. So you don't have an opinion on that?

11:05 15 A. Without having the data to -- without having a

11:06 16 correct characterization, I don't have an opinion on

11:06 17 what that depth would be because I don't have the data.

11:06 18 MR. BUSCH: We are at 11:00 o'clock. She

11:06 19 has about five minutes left on her tape she needs to

11:06 20 change.

11:06 21 Is that fine with you?

11:06 22 THE WITNESS: Fine.

11:06 23 THE VIDEOGRAPHER: End of disk number one of

11:06 24 volume number one of the deposition of Lorne G. Everett,

11:06 25 Ph.D. on February of 14th of the year 2013. We are off

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11:06 1 the record at 11:06 a.m.
 11:18 2 (Recess taken: 11:06 a.m. to 11:18 a.m.)
 11:18 3 THE VIDEOGRAPHER: This is the beginning of
 11:18 4 media number two of volume one of the deposition of
 11:18 5 Lorne G. Everett, Ph.D. on February of 14th of the year
 11:18 6 2013. The deposition continues at 11:18 a.m.
 11:18 7 Q. BY MR. BUSCH: Directing your attention to
 11:18 8 page 12.
 11:18 9 A. Yes, sir.
 11:18 10 Q. At the end of the first paragraph, you indicate
 11:18 11 that PCBs and metals now being found in neighbors' soil
 11:19 12 has migrated from a highly contaminated soil on
 11:19 13 Madison-Kipp property and/or has been discharged
 11:19 14 directly from P- -- Madison-Kipp's vents and stacks and
 11:19 15 contaminated particulate matter subsequently settled out
 11:19 16 of the air onto the neighbors' yards.
 11:19 17 Do you see that, sir?
 11:19 18 A. I do, sir.
 11:19 19 Q. And directing your attention to the stacks, are
 11:19 20 you talking about the stacks that are on the roof of the
 11:19 21 building, that project off the roof of the building?
 11:19 22 A. I am. There are stacks that come off the roof of
 11:19 23 the building and then there are stacks that go off the
 11:19 24 side of the building and go up.
 11:19 25 Q. All right.

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11:19 1 A. But for the most part, they're the stacks on the
 11:19 2 building, yes, sir.
 11:19 3 Q. All right. And have you done any studies to
 11:19 4 determine the air deposition of the particulates that
 11:19 5 emanate from the stacks?
 11:19 6 A. I have, sir.
 11:19 7 Q. And when did you do that?
 11:20 8 A. In preparation for my expert report, sir.
 11:20 9 Q. And can you describe for me what you did.
 11:20 10 A. Um, well, I read about the stacks and the
 11:20 11 controversy associated with them over the years, and how
 11:20 12 there was a requirement for Madison-Kipp to get a permit
 11:20 13 for one of their tall stacks for air pollution issues.
 11:20 14 And what Madison-Kipp did was to ask that that
 11:20 15 permit request be rescinded because their solution was a
 11:20 16 whole bunch of smaller stacks to get around that permit
 11:20 17 requirement. So their approach was to skirt the issue
 11:20 18 and come up with a whole bunch of stacks. That's why we
 11:20 19 see the stacks, to satisfy the permit requirements.
 11:21 20 Further, as I walked around, I noticed these
 11:21 21 vents that clearly had tar associated with them. Took
 11:21 22 pictures of it.
 11:21 23 Went back to the office and then looked at this
 11:21 24 PAH numbers, concluded that the PAHs along Waubesa and
 11:21 25 those back yards were caused by those vents. I stand by

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11:21 1 that.
 11:21 2 And the fact that Madison-Kipp and ARCADIS is now
 11:21 3 going to go out and dig up these folks' backyards
 11:21 4 because of the PCB numbers that were associated with the
 11:21 5 vents confirms that that was the source.
 11:21 6 Further, I recognized that this facility is
 11:21 7 started in the late 1800s when there wasn't any air
 11:22 8 pollution concerns, and for decades they burnt coal.
 11:22 9 And so it's my expectation that there would be
 11:22 10 substantial particulate issues associated with
 11:22 11 Madison-Kipp for all these many, many, many decades,
 11:22 12 sir, of releases.
 11:22 13 Q. Have you done anything else in -- in conjunction
 11:22 14 with any opinion you may have with regard to air
 11:22 15 deposition from the stacks?
 11:22 16 A. Just through my experience which says that one
 11:22 17 needs to approach the particulate problem by looking at
 11:22 18 what's commonly called the bulls-eye; meaning if
 11:23 19 Madison-Kipp is the source, you need to look at the
 11:23 20 particulate distribution away from Madison-Kipp. And
 11:23 21 the approach that was used by ARCADIS was to say okay.
 11:23 22 Everywhere we look, we see PAHs; therefore, it is
 11:23 23 a aqueous problem throughout the whole area. Well, they
 11:23 24 only looked one street away. If they'd looked two,
 11:23 25 three, four, five streets away, they might have seen the

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11:23 1 concentrations went down as you went away from
 11:23 2 Madison-Kipp. That kind of work was not done.
 11:23 3 Q. My question is did you -- did you do anything --
 11:23 4 A. No.
 11:23 5 Q. -- in regard to air deposition other than what
 11:23 6 you just stated in the bulls-eye?
 11:23 7 A. No, sir. My recommendation was that it had to be
 11:24 8 characterized. It should have been characterized and it
 11:24 9 still hasn't been characterized. But I didn't go out
 11:24 10 and do that kind of analysis.
 11:24 11 Q. And do you consider yourself an expert in air
 11:24 12 deposition and flow patterns?
 11:24 13 A. We've done that kind of work, sir, but I wouldn't
 11:24 14 call myself an expert.
 11:24 15 Q. And no one in your group performed any expert
 11:24 16 work in regard to studying the air deposition of
 11:24 17 Madison-Kipp; correct?
 11:24 18 A. Members of my staff have testified in cases on
 11:24 19 those subjects, but they didn't go out and take any
 11:24 20 samples. But they certainly collaborated with what my
 11:24 21 thoughts were, which was this wasn't the correct way to
 11:24 22 characterize it.
 11:24 23 Q. So your opinion is that -- is not that the PAHs
 11:24 24 on every one of the properties is necessarily from
 11:24 25 Madison-Kipp, it's just that there's not been

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11:24 1 appropriate characterization?

11:25 2 A. No. My thoughts are is that there's a high

11:25 3 likelihood that the PAHs on these Class homes which are

11:25 4 directly adjacent to Madison-Kipp does come from

11:25 5 Madison-Kipp primarily.

11:25 6 Could there be a regional contribution? I think

11:25 7 so.

11:25 8 But does contamination primarily come from

11:25 9 Madison-Kipp. They're sitting next to a smoke stack

11:25 10 for, I'll say, 70 years, burnt coal. And you're right

11:25 11 next door. There's going to be an impact, sir.

11:25 12 Q. But you've not done any studies of air

11:25 13 depositions at the Madison-Kipp?

11:25 14 A. No, sir.

11:25 15 Q. And you do not consider yourself an expert in air

11:25 16 deposition?

11:25 17 A. We do that kind of work, but I wouldn't call

11:25 18 myself an expert, sir.

11:26 19 (Pause in the proceedings.)

11:26 20 THE WITNESS: I'm allowed to qualify my

11:26 21 response in terms. PAH distribution over 30 percent of

11:26 22 the PAH samples showed non-detected for PAHs. So if it

11:26 23 was a regional problem and 30 percent of the sites

11:26 24 didn't have any PAHs in them, you wouldn't call that a

11:26 25 regional problem.

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11:26 1 So my point is that it is a source-directed

11:26 2 problem from Madison-Kipp.

11:27 3 Q. BY MR. BUSCH: If it were established that the

11:27 4 have vapor degreaser at Madison-Kipp had a condenser,

11:27 5 would that impact at all on your opinion?

11:27 6 A. I think it would impact my opinions about the

11:27 7 degree of contribution from the vents. But it wouldn't

11:28 8 impact my opinions about the dumping of buckets of free

11:28 9 product, which I think is one of the main sources of the

11:28 10 DNAPL.

11:28 11 (Pause in the proceedings.)

11:28 12 Q. BY MR. BUSCH: Directing your attention to

11:28 13 page 19.

11:29 14 A. Yes, sir.

11:29 15 Q. You reference standards of conduct, at the last

11:29 16 two sentences, in regard to PCE, is the standard of

11:29 17 conduct --

11:29 18 What are the standards of conduct specifically to

11:29 19 which you refer?

11:29 20 A. And which sentence are you referring to, sir?

11:29 21 Q. The last two sentences of -- the last two lines

11:29 22 of page 19.

11:29 23 A. The standards of conduct that I'm referring to

11:29 24 are related to industrial chemicals and that it was a

11:29 25 well-known, back in that time frame, that dumping

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11:30 1 industrial chemicals would cause groundwater

11:30 2 contamination. Papers such as Harvey Banks, the first

11:30 3 civil engineer for the state of California referred to

11:30 4 that -- there's a whole sequence of papers that says

11:30 5 it's bad practice to take industrial chemicals and to

11:30 6 dump them.

11:30 7 And --

11:30 8 Q. And what was Mr. Bank's paper?

11:30 9 A. I shouldn't guess, but I think it was in the

11:30 10 '40s, sir.

11:30 11 Q. Okay.

11:30 12 A. But further than that, what's the real issue is

11:30 13 it shouldn't take hazardous indust -- hazardous

11:30 14 industrial chemicals and dump them right next to

11:30 15 someone's home. And I'm talking within a couple feet of

11:31 16 someone's yard. So what's egregious about that is not

11:31 17 just that they were dumped but they were dumped next to

11:31 18 peoples' yards where kids play in.

11:31 19 Q. Is PCE commercially available today?

11:31 20 A. I think PCE is commercially available today

11:32 21 because I -- I know, for example, they use it in

11:32 22 spotting fluid in a number of dry cleaners. So if you

11:32 23 wanted to get PCE, I believe you could, sir.

11:32 24 Q. Have you taken any positions in regard to whether

11:32 25 PCE should be a banned substance?

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11:32 1 A. I actually have followed the evolution of PCE and

11:32 2 TCE as manmade industrial solvents. And I think that

11:32 3 they are very good at what they do. But there's a

11:32 4 recognized -- recognition -- folks now recognize that

11:32 5 they are increasingly hazardous.

11:33 6 So should they be banned? I don't think so.

11:33 7 Should they be highly controlled? I think they

11:33 8 should.

11:33 9 MS. ROSS: Would you speak una little bit.

11:33 10 THE WITNESS: I'm sorry, Becky.

11:33 11 MS. ROSS: Thank you.

11:33 12 Q. BY MR. BUSCH: In your opinion, is PCE a threat

11:33 13 to human health at any level or its contamination?

11:33 14 A. On that, I will take my cue from the

11:33 15 United States Environmental Protection Agency which has

11:33 16 set a maximum contaminant level goal for PCE of zero.

11:33 17 So the EPA's position is that zero is what they would

11:33 18 like to see.

11:33 19 But as we know, PC -- as we know, EPA sets their

11:34 20 standards based on cost benefit. So the cost to clean

11:34 21 up these sites down to zero is prohibitive. And

11:34 22 therefore, we have an MCL, a maximum contaminant level

11:34 23 above that threshold of zero. And for PCE, that

11:34 24 threshold is 5.

11:34 25 So EPA's position is the goal is zero, but we can

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11:34 1 live with 5 because it would cost too much to try to get
 11:34 2 below that.

11:34 3 Q. That's with respect to groundwater; correct?

11:34 4 A. Oh, that's correct, sir. I'm sorry.

11:34 5 Q. What about with respect to vapor? Are you aware
 11:34 6 of any -- of what the EPA's position is in regard to
 11:34 7 vapor exposure?

11:34 8 A. Well, I believe EPA's position with respect --
 11:34 9 with respect to vapor exposure is that within the house,
 11:34 10 the concentration the EPA is now talking about is
 11:35 11 41 micrograms per meter cubed.

11:35 12 And with respect to the concentrations the EPA is
 11:35 13 looking at the subsurface, that concentration would be
 11:35 14 410 micrograms per meter cubed.

11:35 15 Q. And is that -- can you make that -- or can you
 11:35 16 translate that in parts per billion by volume?

11:35 17 A. It would probably be 6, sir, 6 parts per billion
 11:35 18 volume.

11:35 19 Q. For indoor air?

11:35 20 A. For indoor air, yeah.

11:35 21 Q. And for subslab?

11:35 22 A. Not sure.

11:35 23 Q. If I used the term 62 parts per billion by
 11:35 24 volume, would that equate to 410?

11:35 25 A. It -- it very well could.

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11:35 1 Q. It's a factor of 10 no matter how you read it;
 11:35 2 correct?

11:35 3 A. For these gasses, it would be, sir.

11:36 4 Q. Okay. Now, to your knowledge in the 34 homes
 11:36 5 that are in the Class Area, are any of those people
 11:36 6 currently, to your knowledge, in -- drinking any water
 11:36 7 that has detectable levels of PCB -- excuse me, PCE?

11:36 8 MR. BERGER: Right now?

11:36 9 MR. BUSCH: Right now.

11:36 10 Q. BY MR. BERGER: Do you know?

11:36 11 A. I'm not aware of any.

11:36 12 However, my experience is that with such a
 11:36 13 shallow depth to water, it's not uncommon for people to
 11:36 14 sink very shallow wells to get water for irrigation, for
 11:36 15 example, for sprinkler systems, for that kind of use.

11:36 16 And one of the things we often do is to set up
 11:36 17 ordinances to make sure the people don't sink shallow
 11:36 18 wells because that -- the water is contaminated.

11:37 19 Q. Do you know if any shallow wells or irrigation
 11:37 20 exist in the Class Area?

11:37 21 A. For home use in the Class Area? I'm not aware of
 11:37 22 that, sir.

11:37 23 Q. Okay.

11:37 24 A. But, who's to say what'll happen in the future.

11:37 25 Q. Do you know if shallow wells for irrigation are

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11:37 1 permitted under the ordinance of the City of Madison?
 11:37 2 A. That's just the point. They typically do not
 11:37 3 allow them. But the shallow depth of the water, that's
 11:37 4 what people do.

11:37 5 Q. Are you aware of any homes within the Class Area
 11:37 6 that have an indoor air reading in excess of six parts
 11:37 7 per billion by volume?

11:37 8 A. I'm not aware of any at the moment, sir.

11:37 9 Q. And absent a reading in excess of 6 parts per
 11:38 10 billion by volume, those homes, at least according to
 11:38 11 the EPA, would be protective of human health; correct?

11:38 12 MR. BERGER: Objection to the form of the
 11:38 13 question.

11:38 14 Q. BY MR. BUSCH: Go ahead and answer.

11:38 15 A. I don't agree with that at all, sir.

11:38 16 Q. Well, that's a -- that's a toxicological [sic]
 11:38 17 opinion, is it not?

11:38 18 A. I don't believe it is, sir.

11:38 19 Q. What kind of opinion is it?

11:38 20 A. It's an opinion based on data. And I'm of the
 11:38 21 opinion that the data is not representative of the
 11:39 22 conditions.

11:39 23 For example, in terms of the number of samples of
 11:39 24 soil gas or subslab have been taken, we're talking about
 11:39 25 one or two or three samples. And I'm talking about

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11:39 1 families that have lived there for generations. And so
 11:39 2 I do not believe that the samples that have been taken
 11:39 3 are representative.

11:39 4 And that comes from my experience two weeks ago
 11:39 5 where, because of a growing appreciation of the
 11:39 6 variability of soil gas, I chaired an international
 11:39 7 committee. I chaired an international symposium of the
 11:39 8 dynamic behavior of soil gas. And at that meeting there
 11:39 9 were representatives from Germany and Brazil and Canada
 11:40 10 and United Kingdom and a number of Americans. And the
 11:40 11 consensus was that these gasses vary substantially. And
 11:40 12 so the notion of simply taking two samples and saying
 11:40 13 there's no risk, I don't think is defensible.

11:40 14 Q. So you do not believe that the extent of PCE
 11:40 15 vapor intrusion health risk to the residents in the
 11:40 16 Class Area has been defined?

11:40 17 A. Absolutely not. They haven't found the source.
 11:40 18 They don't know if it's coming from the soil or the soil
 11:40 19 gas. They don't know if it's coming from the shallow
 11:40 20 groundwater. They don't know where it's coming from.
 11:40 21 Ms. Trask was very clear on this. She doesn't
 11:40 22 know where it's coming from.

11:40 23 My position is you need to know the source of the
 11:40 24 contamination before you make that determination. And
 11:40 25 then further, you needed to have taken enough samples to

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11:41 1 show that these dynamic gasses aren't behaving radically
 11:41 2 differently than the numbers that you're proposing to
 11:41 3 protect these families.
 11:41 4 Q. Do you disagree that the health risk from vapor
 11:41 5 intrusion in the 34 homes due to PCE contamination of
 11:41 6 soil and shallow groundwater has been quantified?
 11:41 7 A. I do. I believe that it has not been quantified
 11:41 8 for the reasons that I stated earlier, that it is source
 11:41 9 dependent; they have no idea where the sources is; if
 11:41 10 it's groundwater dependent, they have no appreciation
 11:41 11 for the groundwater flow directions. And so one can't
 11:41 12 base that kind of opinion on very, very poor data.
 11:41 13 Q. I believe -- is it your testimony that the
 11:41 14 shallow groundwater, that the flow direction of the
 11:41 15 shallow groundwater has not been defined?
 11:42 16 A. I don't believe that the, a complete appreciation
 11:42 17 of the shallow groundwater flow direction has been fully
 11:42 18 defined.
 11:42 19 Q. And it is the shallow groundwater that is the
 11:42 20 source, if any, of the vapors; correct?
 11:42 21 A. Yes, sir.
 11:42 22 And can I make that point by simply using one of
 11:42 23 my figures?
 11:42 24 Q. Yes.
 11:42 25 A. In my report, I have Exhibit No. 3.

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11:42 1 Q. Yes.
 11:42 2 A. And Exhibit No. 3 shows concentrations of PCE in
 11:42 3 the shallow groundwater ranging from 500 down to 5. And
 11:42 4 the only thing that is certain on that figure is that
 11:42 5 the 500 contour, which happens to be on the Madison-Kipp
 11:42 6 property, is a solid figure. All of the other contours,
 11:43 7 the 50 parts per billion contour, the 5 parts per
 11:43 8 billion contour, all of those are dotted lines. And
 11:43 9 dotted lines says, We don't know the extent of this
 11:43 10 contamination.
 11:43 11 So this is the State of Wisconsin, Department of
 11:43 12 Natural Resources saying, We don't know the extent of
 11:43 13 the shallow contamination. And that's why they're
 11:43 14 representing it this way.
 11:43 15 If you look, for example, at north of Monitoring
 11:43 16 Well 1, where you see these 5 parts per billion contour,
 11:43 17 and you see all these dashed lines, there's no wells out
 11:43 18 there. No idea how far that goes. And so my position
 11:43 19 is, which is simply a representation of the State of
 11:43 20 Wisconsin, is they don't know.
 11:44 21 Q. In regard the 34 homes within the Class Area,
 11:44 22 the -- do you believe that the PCE soil issue or
 11:44 23 contamination has been addressed adequately?
 11:44 24 A. I don't think so. And the example that I will
 11:44 25 use will be the PCB characterization. In terms of the

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11:44 1 PCB, they've only taken a couple samples. So PCBs,
 11:45 2 they've only couple samples, yet they were willing to
 11:45 3 dig up the whole backyard of these folks' home.
 11:45 4 I don't think that these soils have been
 11:45 5 characterized correctly, bearing in mind that the
 11:45 6 contamination in the soils came from run-off, came from
 11:45 7 this historical events, came from gas migration. All
 11:45 8 these sources contributed to the off-site problem. And
 11:45 9 no one has quantified them yet. And Ms. Trask stated
 11:45 10 that in her deposition: She doesn't know.
 11:45 11 Q. So in regard to soil, again, it's the need for
 11:45 12 further characterization of the soil; is that what your
 11:46 13 opinion is?
 11:46 14 A. I think there needs to be further
 11:46 15 characterization of the soil, yes.
 11:46 16 Q. As you sit here today, based upon the knowledge
 11:46 17 that is available in regard to soil contamination, do
 11:46 18 you believe that the soil contamination issue has been
 11:46 19 appropriately addressed?
 11:46 20 A. I don't believe that it has, sir.
 11:46 21 Q. And can you elaborate on this.
 11:46 22 MR. BERGER: Just asked and answered.
 11:46 23 Q. BY MR. BUSCH: Oh, it's because of lack of
 11:46 24 characterization; correct?
 11:46 25 A. That's correct, sir.

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11:46 1 Q. But beyond, other than lack the characterization,
 11:46 2 to your knowledge is there any other deficiency in your
 11:46 3 opinion in regard to the soil contamination remediation
 11:46 4 of PCE?
 11:46 5 A. Well, the vapors coming up from the shallow
 11:46 6 groundwater is one of the sources. And as we see in
 11:47 7 Exhibit 3, in my report, they're not quite sure what the
 11:47 8 direction of the shallow groundwater is. So if you
 11:47 9 don't know the direction, it's pretty hard to make a
 11:47 10 determination as to what the concentration's going to be
 11:47 11 in the soil.
 11:47 12 What typically would happen is you would figure
 11:47 13 out where the plume is going and then you would look at
 11:47 14 the contamination above plume. Well, both the shallow
 11:47 15 and deep groundwater has not been fully characterized.
 11:47 16 And further, EPA requires that at every site that
 11:47 17 you're characterizing and evaluating, you develop a
 11:47 18 conceptual model. A conceptual model tells you how the
 11:48 19 water is moving, where it's coming from, what the
 11:48 20 concentrations are. That's always the starting point.
 11:48 21 ARCADIS doesn't even have a conceptual model.
 11:48 22 When the regulator, Mr. Schmoller, was asked,
 11:48 23 "Did you have a conceptual model? Do you know what's
 11:48 24 going on here?"
 11:48 25 He said, "Oh, I have a conceptual model."

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11:48 1 And so when he was asked where it is, he says,
 11:48 2 "It's in my head."
 11:48 3 So this is not a standard protocol. Standard
 11:48 4 protocol is working from a conceptual model and as you
 11:48 5 get more information, improve the model.
 11:48 6 ARCADIS does not have a conceptual model. That's
 11:48 7 why we're getting all these surprises.
 11:48 8 Q. Do you have an opinion as to whether the lateral
 11:48 9 extent, by that I mean the outward movement of the
 11:48 10 shallow groundwater contamination, is continuing to, um,
 11:49 11 grow?
 11:49 12 MR. BERGER: We're talking PCE here?
 11:49 13 MR. BUSCH: Yeah, PCE.
 11:49 14 THE WITNESS: I think it's clear that there
 11:49 15 are, is a contamination onsite, there's contamination in
 11:49 16 the soil, there's contamination in the shallow
 11:49 17 groundwater. That water is continuing to move. ARCADIS
 11:49 18 says it moves in every direction including down.
 11:49 19 And so is there a higher -- is there a
 11:49 20 likelihood that that contamination will continue to
 11:49 21 move? I think that that needs to be characterized and
 11:49 22 it has not.
 11:49 23 Q. BY MR. BUSCH: Have you done any work
 11:49 24 characterizing it?
 11:49 25 A. No, my position is that the site has been very

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11:49 1 poorly characterized. In fact, I think that it is -- it
 11:50 2 is hard to fathom that 19 years after they were asked to
 11:50 3 do this, they haven't done it.
 11:50 4 ARCADIS is embarked upon a multi million dollar
 11:50 5 characterization to do this. And it's 19 years too
 11:50 6 late.
 11:50 7 But for Mr. Johnson to say that Madison-Kipp was
 11:50 8 doing a great job over all these decades, they were
 11:50 9 doing a fine job, everything was totally acceptable;
 11:50 10 yet, however, when ARCADIS came along, all of a sudden
 11:50 11 we've got a multi million dollar characterization in
 11:50 12 remediation program.
 11:50 13 Madison-Kipp absolutely was -- had the position
 11:50 14 of deny, deny, deny and do very little. And that's
 11:51 15 fully been documented by the Wisconsin regulator,
 11:51 16 Mr. Schmoller.
 11:51 17 Q. Other than vapor intrusion, to your knowledge,
 11:51 18 are the 34 members of the Class subject to any direct
 11:51 19 impact with PCE as of today?
 11:51 20 MR. BERGER: In addition to what he's
 11:51 21 testified to?
 11:51 22 MR. BUSCH: I don't think he's testified
 11:51 23 yet.
 11:51 24 MR. BERGER: I think it has.
 11:51 25 MR. BUSCH: Well, then he can answer it.

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11:51 1 THE WITNESS: Well, I think that the PCE at
 11:52 2 extremely high concentrations is clearly on its way to
 11:52 3 Monitoring Well 8. I think that Monitoring Well 8
 11:52 4 provides the drinking water for all of the folks in the
 11:52 5 Class Area. I think that the resource, that aquifer in
 11:52 6 that area is hugely compromised and will be for the
 11:52 7 foreseeable future.
 11:52 8 So has PCE impacted these people? I think
 11:52 9 it's impacted them in terms of their water supply.
 11:52 10 I think it's impacted them in terms of -- I
 11:52 11 can't imagine anybody buying a house over this kind of
 11:52 12 contamination in this close proximity to contamination.
 11:53 13 I just can't imagine anybody buying that house.
 11:53 14 So I think that there is a long-term,
 11:53 15 ongoing damage associated with PCE to these families.
 11:53 16 Q. BY MR. BUSCH: Have you told the residents
 11:53 17 that -- have you had a direct conversation with them in
 11:53 18 regard to this opinion?
 11:53 19 A. I have --
 11:53 20 Q. Go ahead.
 11:53 21 A. I have met with the residents. I have walked
 11:53 22 throughout their houses and down in their basements. I
 11:53 23 was in an observational mode. It -- I would hardly be
 11:53 24 making comments like that at that stage. I was simply
 11:53 25 observing what was going on in each of their homes.

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11:54 1 Q. I want to know, sir: Did you tell these people
 11:54 2 they couldn't sell their homes?
 11:54 3 A. I did not.
 11:54 4 Q. You told these peoples they should leave their
 11:54 5 homes?
 11:54 6 A. I did not make any kind of -- any kind of
 11:54 7 recommendation like that.
 11:54 8 Q. Do you believe they should leave their homes? Do
 11:54 9 you?
 11:54 10 A. Do I believe it?
 11:54 11 Q. Should they leave their homes right now?
 11:54 12 A. I think these folks living on Waubesa that have
 11:54 13 kids in areas with PCBs that are being excavated, I sure
 11:54 14 wouldn't let my kids play on that -- in the backyard of
 11:54 15 those homes. 'Cause this is surface contamination where
 11:54 16 the kids play. And that is being dug up it's so bad.
 11:54 17 Q. And PCE on Marquette, did you -- have you told
 11:54 18 those people they should leave their homes?
 11:54 19 A. As I indicated earlier, sir, I wouldn't say
 11:54 20 anything like that to these people.
 11:54 21 Q. Are you of the opinion they should leave their
 11:54 22 homes?
 11:55 23 A. That's different. Um --
 11:55 24 Q. Are you of the opinion?
 11:55 25 A. I'm of the opinion that I have kids and

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11:55 1 grandkids, I would not want them playing anywhere near
 11:55 2 that fence, for example. Along the length of the
 11:55 3 Madison-Kipp adjacent to the backyard of these homes --
 11:55 4 on Marquette now, not Waubesa, on Marquette -- there's a
 11:55 5 huge excavation going on the whole length, right along
 11:55 6 the fence line.
 11:55 7 They're digging that stuff up, PCBs. The most
 11:55 8 toxic of all the chemicals we're talking about. And
 11:55 9 they're stopping at the fence, which happens to be a
 11:55 10 chain link fence. And the contamination is moving by
 11:55 11 water certainly through that fence.
 11:55 12 And if I have my kids sitting right next to it --
 11:55 13 Where I have pictures of playpens, of slides,
 11:55 14 that's where the kids play. Trampolines.
 11:56 15 Would I have my kids there? I absolutely would
 11:56 16 not have them there. Certainly my grandkids either.
 11:56 17 Q. Do you believe that the residents along Marquette
 11:56 18 should evacuate their homes?
 11:56 19 MR. BERGER: I think it's been asked and
 11:56 20 answered.
 11:56 21 MR. BUSCH: I just --
 11:56 22 Q. BY MR. BUSCH: Yes or no.
 11:56 23 A. If it was me, I would definitely not let my kids
 11:56 24 in those backyards.
 11:56 25 Q. I'm saying evacuate the home.

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11:56 1 A. Well, what I'm saying: How can you live in the
 11:56 2 house if you can't let anybody go out of the house.
 11:56 3 Q. So it's your opinion that they should evacuate
 11:56 4 the home?
 11:56 5 A. My opinion is that I wouldn't let the kids play
 11:56 6 in the backyard.
 11:56 7 Q. Can you answer my question?
 11:56 8 MR. BERGER: It's been asked and answered.
 11:56 9 MR. BUSCH: No, it hasn't been.
 11:56 10 THE WITNESS: I believe that the risk of the
 11:56 11 PCBs is as high or higher than the PCE.
 11:57 12 I believe that the PAHs that were found in
 11:57 13 every yard is a risk that ARCADIS is denying.
 11:57 14 I think that the arguments made on behalf of
 11:57 15 the PAHs is totally indefensible. And so based on PCBs
 11:57 16 we have PAHs, based on PCEs, me, personally, would I let
 11:57 17 my kids play in that backyard? Absolutely not.
 11:57 18 Q. BY MR. BUSCH: Would you -- have you advised or
 11:57 19 are you going to advise the neighbors to evacuate their
 11:57 20 home?
 11:57 21 MR. BERGER: I'm going to object.
 11:57 22 You don't have to answer that question.
 11:57 23 He hasn't expressed an opinion on it.
 11:57 24 Q. BY MR. BUSCH: So you're not going to express an
 11:57 25 opinion as to whether those homes are liveable?

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11:57 1 A. Oh, I don't think they are. I don't think
 11:57 2 they're liveable at all. Bit I certainly wouldn't
 11:57 3 express that to any of the Class. It's not my position
 11:58 4 to do that.
 11:58 5 Mine is an educated opinion. I understand these
 11:58 6 concentrations. I understand the risks. Those folks
 11:58 7 don't understand any of the stuff, in my opinion, and
 11:58 8 they're at a huge disadvantage and are being put at risk
 11:58 9 and I don't think that's fair.
 11:58 10 Q. Other than the homes over on Waubesa, are you
 11:58 11 aware of any concentrations of PCBs found on the
 11:58 12 neighbors' properties which are above action levels?
 11:58 13 A. At what location, sir?
 11:58 14 Q. Any of the homes other than Waubesa?
 11:58 15 A. Well, I think Waubesa makes my point that there
 11:58 16 wasn't enough samples to -- to make any determination.
 11:58 17 What they did is they dug up everything as far as the
 11:58 18 samples were. Had they taken more samples, they
 11:59 19 probably would have been doing more digging.
 11:59 20 So if you say on Marquette, did they get enough
 11:59 21 samples? I would indicate to you I believe they have.
 11:59 22 Q. Are you aware of any samples that are in excess
 11:59 23 of action levels?
 11:59 24 MR. BERGER: You're talking PCBs here?
 11:59 25 MR. BUSCH: PCBs.

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11:59 1 THE WITNESS: Um, I'm -- I'm not, sir, but
 11:59 2 it defies logic. It defies logic to think that
 11:59 3 Madison-Kipp would then dig up a huge 10 foot swath of
 11:59 4 soil next to the fence and that none of it got through
 11:59 5 the fence. That's illogical, sir.
 11:59 6 Q. BY MR. BUSCH: Is it your opinion that every
 12:00 7 facility that handles hazardous materials needs to have
 12:00 8 a trained environmental manager?
 12:00 9 A. My -- there needs to be somebody that has that
 12:01 10 training. That somebody can either be an employee, but
 12:01 11 very often what they do is they have outside, other
 12:01 12 engineering firms or consulting firms that take on that
 12:01 13 responsibility.
 12:01 14 Do I think that there should be somebody in
 12:01 15 charge of the environmental issues where hazardous waste
 12:01 16 is being handled? Absolutely. Somebody needs to know
 12:01 17 what's going on.
 12:01 18 Q. And other than your opinion, are you aware of any
 12:01 19 regulations which mandate that?
 12:01 20 A. That's not a subject that I would have ran into
 12:01 21 in the past, sir, so I can't speak to that.
 12:01 22 Q. Okay. Directing your attention to page 40.
 12:02 23 A. Yes, sir.
 12:02 24 Q. You cite the guidance of the use of 7003 of RCRA
 12:03 25 for definition of imminent and substantial endangerment.

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12:03 1 Do you see that?

12:03 2 A. I do, sir.

12:03 3 Q. Is that the sole basis -- the sole reference upon

12:03 4 which you rely for that definition?

12:03 5 A. No, sir.

12:03 6 Q. What else?

12:03 7 A. I've read a number of positions on what

12:03 8 endangerment means. I've spent a lot of years looking

12:03 9 at cleanup orders in California. They typically use

12:03 10 this same -- the same kind of verbiage. And so for many

12:03 11 years, I've -- I've been involved with -- with what this

12:03 12 verbiage means, and it goes far beyond RCRA and seems

12:03 13 that many states have simply picked it up, sir.

12:03 14 Q. But for purposes of your opinion, you are relying

12:04 15 upon the -- this bracketed, I should say the indented

12:04 16 language for your definition of imminent and substantial

12:04 17 endangerment?

12:04 18 MR. BERGER: Objection to the form.

12:04 19 Q. BY MR. BUSCH: Go ahead and answer.

12:04 20 A. I'm relying on all of my experience; and the

12:04 21 quotes imply that it's representative of the language,

12:04 22 yes, sir.

12:04 23 Q. Okay. You -- on page 41, you rely on the -- at

12:04 24 sub (2), you rely on the expert report of David Ozonoff

12:04 25 explicitly.

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12:04 1 Do you see that?

12:04 2 A. I do see that, sir.

12:04 3 Q. And -- and the -- that portion of -- or that

12:04 4 opinion of Dr. Ozonoff is that PCE is dangerous to

12:05 5 humans in any concentration.

12:05 6 Do you see that?

12:05 7 A. I do see that, sir.

12:05 8 Q. And is it your opinion that PCE in any

12:05 9 concentration presents imminent and substantial

12:05 10 endangerment to human health?

12:05 11 A. I would respond that EPA's position is that the

12:05 12 maximum cleanup goal for PCA is zero -- or PCE is zero.

12:05 13 Dr. Ozonoff says that PCE is dangerous at any

12:05 14 concentration.

12:05 15 Ms. Trask takes that same view and explicitly

12:05 16 said that radon is dangerous at any concentration.

12:05 17 Your question, however, is that are there

12:06 18 acceptable levels for PCE? And as I indicated to you,

12:06 19 these concentrations, these MCLs, are based on cost

12:06 20 benefit analysis. And that says that it just costs more

12:06 21 than most industries or people can afford to pay to get

12:06 22 those concentrations down. So that's my position.

12:06 23 Q. How bad with regard to screening levels did

12:06 24 screening levels come into play at all in your opinion?

12:06 25 A. I think that screening levels are a very guideway

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12:06 1 to characterize sites. But the reason they call them

12:06 2 screening is just that: Screening levels are typically

12:06 3 used to identify sources. And at this site even a

12:06 4 screening level approach has not identified the sources.

12:07 5 Q. Screening levels are also used to ascertain where

12:07 6 the concentrations are a threat to human health;

12:07 7 correct?

12:07 8 A. Oh, I believe that there are those kind of

12:07 9 screening levels, yes, sir.

12:07 10 Q. And if PCE in the vapor is below a screening

12:07 11 level, then it does not present a threat to human

12:07 12 health, does it?

12:07 13 A. If the PCE data is defensible. And I don't think

12:07 14 this data is defensible.

12:07 15 Q. But if it is defensible, if the level is below

12:07 16 the screening level of the PCE, then it is not -- does

12:07 17 not present an imminent and substantial threat to human

12:07 18 health; is that correct?

12:07 19 A. The answer -- my answer to that is if I believe

12:07 20 that the PCE concentration is representative of our

12:08 21 understanding of PCE behavior and sampling, I would

12:08 22 support it.

12:08 23 If the PCE number that is being considered is not

12:08 24 consistent with our understanding of PCE behavior, I

12:08 25 would not support it.

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12:08 1 Q. Hypothetically, if -- if -- if a sufficient

12:08 2 amount of characterization were done, and the results

12:08 3 were that the PCE levels in the area, in the vapor, were

12:08 4 below the screening levels set by the EPA, you would

12:08 5 agree that in that situation an imminent and substantial

12:08 6 endangerment does not exist --

12:08 7 MR. BERGER: Well --

12:08 8 Q. BY MR. BUSCH: -- to human health does not exist?

12:08 9 MR. BERGER: I'm going to object.

12:09 10 Imminent and substantial endangerment is not

12:09 11 presented by the Madison-Kipp site, is that your

12:09 12 question?

12:09 13 MR. BUSCH: No. I had a hypothetical

12:09 14 question.

12:09 15 MR. BERGER: Well, you had an incomplete

12:09 16 hypothetical.

12:09 17 MR. BUSCH: No, I did not.

12:09 18 MR. BERGER: Okay. We disagree.

12:09 19 Q. BY MR. BUSCH: Okay. Go ahead and answer.

12:09 20 A. Well, the verbiage of imminent and substantial

12:09 21 threat is verbiage that is applied in every case that

12:09 22 I've seen to an order to cleanup, which means it is

12:09 23 applied to the source. I have not seen that verbiage

12:09 24 used, associated with individual homes.

12:09 25 Are the individual homes at risk? The answer is

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12:09 1 absolutely they are at risk if the source hasn't been
 12:10 2 characterized and understood.
 12:10 3 So my position is that you need to know if the
 12:10 4 number that you're dealing with for PCE is defensible.
 12:10 5 And my position is that at this site those number are
 12:10 6 too few and non-defendable.
 12:10 7 Q. Without regard to this site, as a general
 12:10 8 proposition, if vapor -- defensible vapor data falls
 12:10 9 below a screening level, it does not present an imminent
 12:10 10 and substantial endangerment to human health, does it?
 12:10 11 MR. BERGER: Same objection.
 12:10 12 MR. BUSCH: Fine.
 12:10 13 Q. BY MR. BUSCH: Go ahead and answer.
 12:10 14 A. My last paper on the dynamic behavior of the soil
 12:10 15 gasses was submitted to the California Department of
 12:10 16 Toxic Substances Control. And within the last month,
 12:11 17 the Department of Toxic Substances Control lead guy --
 12:11 18 Bless you.
 12:11 19 -- lead guy on vapor intrusion took our paper and
 12:11 20 sent it to every person within the California water
 12:11 21 resources control board and every person within DTSC
 12:11 22 saying: This is what you need to consider relevant to
 12:11 23 soil gas in our screening levels. You need to
 12:11 24 understand the dynamic behavior.
 12:11 25 And so the dynamic behavior of gasses is not in

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12:11 1 the regulations as yet. And the regulations are
 12:11 2 changing in response to that, sir. That's why I'm
 12:11 3 having a problem answering your question.
 12:11 4 Q. So you did not answer my question --
 12:11 5 A. I can't answer your question. I can't -- my
 12:11 6 answer is that the regulations at this stage are just
 12:11 7 catching up to the science. And I'm a coauthor on the
 12:11 8 changing science.
 12:11 9 Q. So your answer is no?
 12:12 10 A. With all the caveats that I've indicated earlier,
 12:12 11 that's my answer.
 12:12 12 Q. And is that -- is that based upon your,
 12:12 13 um -- well, that's a toxicological [sic] opinion, isn't
 12:12 14 it?
 12:12 15 A. No, respectfully, it's not based on toxicology at
 12:12 16 all. It's based on the defensibility of the actual data
 12:12 17 that was doing those calculations on.
 12:12 18 Q. Try it one more time. If vapors at a site are
 12:12 19 adequately characterized and the levels are below the
 12:13 20 EPA recognized screening levels for PCE and the
 12:13 21 contaminant of interest is PCE, there is no eminent and
 12:13 22 substantial endangerment, is there?
 12:13 23 MR. BERGER: Same objection. It's been
 12:13 24 asked and answered.
 12:13 25 MR. BUSCH: I get a yes or no answer to that

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12:13 1 and I've not had one.
 12:13 2 MR. BERGER: You can try and get it. It's
 12:13 3 an incomplete hypothetical. Doesn't say what site --
 12:13 4 MR. BUSCH: If you want to object to the
 12:13 5 form, Norm, you can object to the form. But I will not
 12:13 6 have a speaking objection.
 12:13 7 MR. BERGER: I objected to the form.
 12:13 8 MR. BUSCH: That's fine.
 12:13 9 MR. BERGER: This is probably the fourth or
 12:13 10 fifth time --
 12:13 11 Q. BY MR. BUSCH: So go --
 12:13 12 MR. BERGER: -- you have asked the question
 12:13 13 and he has answered it.
 12:13 14 MR. BUSCH: Well, he hasn't answer it. He
 12:13 15 answered --
 12:13 16 Q. BY MR. BUSCH: Can you answer yes or no?
 12:13 17 A. I'll answer it this way.
 12:13 18 Q. No. Can you answer it "yes" or "no"? Because if
 12:13 19 you can't, then I'll move on.
 12:13 20 A. I can answer it.
 12:13 21 Q. Okay.
 12:13 22 A. The answer is no because the regulations are
 12:13 23 changing. So you can't ask a yes-or-no question on
 12:13 24 regulations that are changing.
 12:13 25 Q. And the regulations that are changing, are you

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12:14 1 talking about the EPA screening levels, those are
 12:14 2 changing?
 12:14 3 A. No. I'm talking about the sample numbers that
 12:14 4 those screening are based on.
 12:14 5 Q. You're aware, however, that in February 2012, the
 12:14 6 EPA promulgated new screening levels for PCE vapor;
 12:14 7 correct?
 12:14 8 A. I quoted them to you.
 12:14 9 Q. And they're not in your paper though, are they?
 12:14 10 A. They're not, no.
 12:14 11 Q. Okay. Do you, um, do you find fault with those
 12:14 12 newly promulgated screening levels by the EPA?
 12:14 13 A. I find fault with the data that goes into those
 12:14 14 screening levels. And the way that that data is
 12:15 15 checked, for example, when one takes a soil gas sample.
 12:15 16 I'm the chairman of the national committee that
 12:15 17 wrote those standards. I was responsible for developing
 12:15 18 the standard on how to take an active soil gas sample,
 12:15 19 how to take a passive soil gas sample, how to take a
 12:15 20 direct soil gas sample. And so I'm intimately involved
 12:15 21 with these national standards. And I would indicate to
 12:15 22 you that based on the dynamic behavior of soil gasses,
 12:15 23 it's all going to change.
 12:15 24 And I had a uniform consensus two weeks ago at an
 12:15 25 international meeting that one needs to look at the

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12:15 1 dynamic behavior of soil gas.
 12:15 2 That's why in my report what I recommended was
 12:15 3 continuous soil gas measurements. The only example
 12:15 4 of -- of measurements for PCE over time was done by
 12:16 5 Mr. Nada. And those results showed wild swings in
 12:16 6 concentration. So we know what's happening there.
 12:16 7 But the results that you're talking about, sir,
 12:16 8 are one or two data points. And there's not enough data
 12:16 9 over time to -- to -- to make the decision that's being
 12:16 10 made here.
 12:16 11 Q. Have you ever operated as a remediation manager
 12:16 12 where continuous monitoring has been used?
 12:16 13 A. I think that the -- the whole concept of
 12:16 14 continuous monitoring is just coming to light. And I
 12:16 15 chaired the first meeting on it, the first international
 12:16 16 meeting on it.
 12:16 17 Q. And that was two weeks ago?
 12:17 18 A. Two weeks ago. I was aware of that earlier.
 12:17 19 I've been aware for a long time.
 12:17 20 Q. But my point is, have you ever served as an
 12:17 21 overseer of a continuous monitoring program with regard
 12:17 22 to PCE in the field?
 12:17 23 A. I have not, but I have written the fundamental
 12:17 24 papers on that subject.
 12:17 25 Q. Assuming for the moment that there were a

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12:17 1 condition where the PCE vapor were in excess of the
 12:17 2 screening levels, which, I believe, indoor air is
 12:18 3 6 parts per billion by volume --
 12:18 4 A. Yes, sir.
 12:18 5 Q. Assuming that to be the case, what, in your
 12:18 6 experience, is the typical remedy -- or remedy?
 12:18 7 MR. BERGER: For -- for what?
 12:18 8 MR. BUSCH: For --
 12:18 9 MR. BERGER: The source of it or for the
 12:18 10 home?
 12:18 11 MR. BUSCH: For the home.
 12:18 12 THE WITNESS: The typical remedy has a lot
 12:18 13 to do with the site that's involved. For example, at
 12:18 14 Fort Bragg, what they did was simply to move all the
 12:18 15 houses, dig up everything below it.
 12:18 16 At other locations what they will do is they
 12:18 17 will put some kind of a liner under the bottom of the
 12:18 18 facility to preclude the gasses from coming up.
 12:18 19 At other facilities what they will do is
 12:19 20 they will put in a subslab depressurization system. And
 12:19 21 I believe that that's what was attempted at this
 12:19 22 location.
 12:19 23 Q. BY MR. BUSCH: And is that an adequate remedy --
 12:19 24 A. Ah --
 12:19 25 Q. -- for the home?

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12:19 1 A. That becomes site specific.
 12:19 2 Q. Have you rendered any opinion as to this site
 12:19 3 specific as to whether that's an adequate remedy for the
 12:19 4 indoor air of the homes?
 12:19 5 A. I think this system has been poorly designed. I
 12:19 6 was standing next to the homes. I walked into the
 12:19 7 basement of the homes to see exactly where the
 12:19 8 pressurization system was.
 12:19 9 I looked at the downspouts from the homes, where
 12:19 10 the water came off the roof. And the downspouts came
 12:19 11 down exactly where the pressurization system was. And
 12:20 12 anybody that deals with the vadose zone and soil
 12:20 13 moisture knows that if you've got high soil moisture,
 12:20 14 sometimes called the incubus status of soil moisture,
 12:20 15 you're not getting any gas migration; and therefore,
 12:20 16 where the pressurization systems are relevant to
 12:20 17 downspouts, they're simply not working. That means the
 12:20 18 rest of the home is at exposure.
 12:20 19 Q. So it's not necessarily a criticism in the Class
 12:20 20 Area of a subslab depressurization system, it's the
 12:20 21 installation and location that's impacting on its
 12:20 22 remedial impact, effect?
 12:20 23 A. I think that's part of it, sir, yes.
 12:20 24 The other part is that, you know, they've got a
 12:20 25 fair amount of soil moisture there. So they've got to

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12:20 1 understand the soil moisture situation in order to
 12:20 2 understand where the gasses are coming up. And nobody's
 12:21 3 looked at soil moisture and the behavior of the soil
 12:21 4 gasses related to this soil moisture.
 12:21 5 Q. Had that data been taken into consideration,
 12:21 6 would a subslab depressurization system be an
 12:21 7 appropriate remedy for the indoor air, assuming it were
 12:21 8 above screening levels?
 12:21 9 A. I think, sir, if it's done correctly, it's a good
 12:21 10 approach, yes.
 12:21 11 Q. Okay. If PCE vapor were the only issue in this
 12:21 12 matter, and if the PCE subslab depressurization system
 12:21 13 were properly installed, then these homes, in your
 12:22 14 opinion, would not be subject to or would not present an
 12:22 15 imminent and substantial danger to the residents, would
 12:22 16 it?
 12:22 17 MR. BERGER: Objection to the form.
 12:22 18 Q. BY MR. BUSCH: Go ahead and answer.
 12:22 19 A. Well, I think it is endangerment to human health
 12:22 20 in the environment.
 12:22 21 My position is that Madison-Kipp has severely
 12:22 22 damaged the groundwater supply to these families. And I
 12:22 23 believe that that is an imminent and substantial
 12:22 24 endangerment. And I will fully expect that the City of
 12:22 25 Madison will agree with me once they realize how bad

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12:22 1 things are.

12:23 2 MR. BUSCH: We're at 12:20. I still have

12:23 3 substantial amounts to go. I recognize I've taken you

12:23 4 20 minutes beyond the hour.

12:23 5 If you want to break for lunch --

12:23 6 I don't want to bring food in here. I think

12:23 7 that -- that becomes a problem. So if you want to take

12:23 8 a break. I don't need to take a break for lunch.

12:23 9 I can't tell you how much longer I'm going

12:23 10 to be but I'm going to be more than an hour and I'll

12:23 11 wrap. And I know these ladies and gentlemen will ask

12:23 12 questions.

12:23 13 So if you want to break for lunch, I think

12:23 14 this would be a good time to do it.

12:23 15 THE WITNESS: Thank you, sir.

12:23 16 THE VIDEOGRAPHER: We're off the record at

12:23 17 12:23 p.m.

01:12 18 (The lunch break was taken at 12:23 p.m.)

19

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1 SANTA BARBARA, CALIFORNIA; THURSDAY, FEBRUARY 14, 2013

2 1:12 P.M.

3

4 (The proceedings reconvened with all

5 parties present as before with the exception

6 of Mr. Johnson.)

7

01:12 8 THE VIDEOGRAPHER: We are back on the record

01:12 9 at one 1:12 p.m.

01:12 10

01:12 11 EXAMINATION (continued)

01:12 12 BY MR. BUSCH:

01:12 13 Q. Dr. Everett, we have spoken and your report

01:12 14 reflects from time to time a distinction between shallow

01:12 15 groundwater and deep groundwater.

01:12 16 Is there a depth at which -- which determines

01:12 17 what is shallow groundwater?

01:12 18 A. In this case, shallow groundwater is really

01:13 19 defined by where the shallow well screens are. So it's

01:13 20 really dictated by what's been put in the ground. So

01:13 21 shallow to one person might not be shallow to another

01:13 22 person, sir.

01:13 23 Q. Do you have an opinion, in this case, as to what

01:13 24 the depth is that defines shallow, the differentiation

01:13 25 between shallow and groundwater?

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01:13 1 A. I haven't tried to come up with a depth I would

01:13 2 call shallow and which one was deep. The obvious

01:13 3 difference being that the -- as you go further into the

01:13 4 fractured rock, you get further into the deep

01:14 5 groundwater.

01:14 6 Q. But just to follow through, there's no number at

01:14 7 depth -- you do not have an opinion as to a certain

01:14 8 depth at which defines or differentiates shallow from

01:14 9 deep in this case; correct?

01:14 10 A. I do not. I am not trying to do that, no, sir.

01:14 11 (Mr. Johnson rejoins the proceedings.)

01:14 12 Q. BY MR. BUSCH: Are you familiar with the concept

01:14 13 of background in relation to PCE vapor?

01:14 14 A. I'm aware of it, yes, sir.

01:14 15 Q. And did you take the background into

01:14 16 consideration at all in any of your opinions as

01:14 17 reflected in Exhibit 1 as supplemented by Exhibit 2?

01:14 18 A. In fact, that's my whole argument, that it really

01:14 19 is the background that is the source, background in

01:15 20 terms of the distribution of sources at the surface, the

01:15 21 background in terms of the distribution of sources in

01:15 22 the subsurface, and the background of contributions

01:15 23 from, let's say, household products.

01:15 24 Q. That your opinion is that a differentiation has

01:15 25 not been made; is that what your opinion is?

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01:15 1 A. That's correct, sir.

01:15 2 Q. Okay. Did -- did you take into consideration at

01:15 3 all in your opinion the 2011 EPA study on background

01:15 4 indoor air concentrations of follow-through organic

01:15 5 compounds?

01:15 6 A. I'm aware of it, yes, sir.

01:15 7 Q. Did you take it into consideration in your

01:16 8 opinion?

01:16 9 A. I did, sir.

01:16 10 Q. And in -- how did you do so --

01:16 11 Excuse me.

01:16 12 In what respect?

01:16 13 A. In that EPA's preferred vapor intrusion approach

01:16 14 involves multiple lines of evidence. And one of those

01:16 15 lines of evidence that is often a point to, is the

01:16 16 document that you're speaking to, the line of evidence

01:16 17 of what is in a background conditions in homes across

01:16 18 America and industries across America.

01:16 19 But multiple lines of evidence goes beyond that.

01:16 20 The multiple lines of evidence that I included in my

01:16 21 decisions was the concentrations at Madison-Kipp, the

01:16 22 proximity of the houses to Madison-Kipp, the grading of

01:16 23 the water from Madison-Kipp to the homes. And so there

01:16 24 was a multiple lines of evidence that I considered in

01:17 25 the, coming up with my position. But that was one of

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01:17 1 them, sir.

01:17 2 Q. Now, I believe you testified that you had access

01:17 3 to 34 homes at least that are the Class members?

01:17 4 A. If I said that, I perhaps misspoke. I'm sure I

01:17 5 would have had access had I asked. But what I asked for

01:17 6 was homes that really had the depressurization systems.

01:17 7 Q. All right.

01:17 8 A. And those are the ones that I accessed, sir.

01:17 9 Q. Okay. Have you done or did you request a

01:17 10 cataloguing of potentially PCB containing materials for

01:17 11 each of the Class members' homes?

01:17 12 A. I've seen those kinds of lists.

01:17 13 And did I specifically ask for that cataloguing?

01:18 14 I did not, sir.

01:18 15 But I'm well aware that the cataloguing of those

01:18 16 sources, in addition to a number of other things, come

01:18 17 to play in vapor intrusion evaluations.

01:18 18 Q. And at least in this case you have not asked for

01:18 19 that for each of the homes?

01:18 20 A. I have not, sir.

01:18 21 Q. In your report, you note that at some point in

01:19 22 time the employees of Madison-Kipp would use waste oil

01:19 23 as a means of depth suppression.

01:19 24 Do you recall that?

01:19 25 A. Yes, I do, sir.

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01:19 1 Q. Okay. And as you sit here today, do you know or

01:19 2 do you have a belief as to when that practice stopped?

01:19 3 A. I believe it stopped in the early to mid '70s,

01:19 4 sir.

01:19 5 Q. Okay. Using that as a reference point, do you

01:19 6 have any knowledge?

01:19 7 (Interruption at the door.)

01:19 8 MR. BUSCH: Why don't we just take a timeout

01:20 9 here.

01:20 10 THE VIDEOGRAPHER: Probably take a timeout

01:20 11 because of the sounds.

01:20 12 MR. BUSCH: Yeah. That's what I think.

01:20 13 THE VIDEOGRAPHER: Just a moment, please.

01:20 14 We are off the record at 1:20 p.m.

01:25 15 (Recess taken: 1:20 p.m. to 1:25 p.m.)

01:25 16 THE VIDEOGRAPHER: We are back on the record

01:25 17 at 1:25 p.m.

01:25 18 Q. BY MR. BUSCH: Are you familiar with the

01:25 19 prevalence of the, if at all, of the practice prior to

01:25 20 say 1978, '79, of using waste oil that contained PCBs

01:26 21 and perhaps PCEs as a depth suppressant in Wisconsin?

01:26 22 A. I'm not aware of the history of thus suppression

01:26 23 in Wisconsin. Although kind of growing up in the

01:26 24 country, I recall that oils were used for depth

01:26 25 suppression as well as water as part of my growing up

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01:26 1 experience.

01:26 2 Q. And to the extent that you testify or that your

01:26 3 opinion is based upon failure to meet a standard in

01:26 4 regard to use of waste oil as a depth suppressant, what

01:26 5 standard are you using below which you believe

01:26 6 Madison-Kipp fell in its use of waste oil as a depth

01:27 7 suppressant?

01:27 8 MR. BERGER: Asked and answered.

01:27 9 You can answer.

01:27 10 THE WITNESS: I'm taking my insights from

01:27 11 both experience and from the environmental manager at

01:27 12 Madison-Kipp who was there for 31 years. And his

01:27 13 position was that it was waste disposal. His position

01:27 14 was that this was a convenient way of getting rid of the

01:27 15 hazardous waste and that when the gravel parking lots

01:27 16 were covered over and Madison-Kipp didn't have the

01:27 17 convenience of dumping it out and of spreading it on the

01:27 18 gravel, that they then wanted to come into compliance

01:28 19 and found a recycler who apparently was the old septic

01:28 20 truck operator, Max. And it was Max that started to

01:28 21 vacuum up this hazardous waste and hopefully dispose of

01:28 22 it reliably.

01:28 23 But the position of the folks at

01:28 24 Madison-Kipp was this was depth suppression and waste

01:28 25 disposal.

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01:28 1 Q. BY MR. BUSCH: To the extent that it was used as

01:28 2 a depth suppressant, did that fall, in your opinion,

01:28 3 below the standard of care that was used in, prior to

01:28 4 1978?

01:28 5 A. I believe so. And the reason is, through my

01:28 6 experience and familiarity, the oils that are typically

01:28 7 used were petroleum based oils and not hydraulic oils

01:28 8 with PCBs in them. It was really the PCBs that were

01:29 9 unacceptable, in addition to the PAHs in the hydraulic

01:29 10 oils.

01:29 11 Q. So is it your understanding that if the standard

01:29 12 of care as of 1978 or '79 that there was -- that oils

01:29 13 containing PCBs were not used generally as a depth

01:29 14 suppressant?

01:29 15 A. It was my appreciation that industrial chemicals

01:29 16 should not be disposed this way. However, petroleum

01:29 17 based chemicals had been used and -- in the past. So

01:29 18 I'm making the distinction between petroleum based oils

01:29 19 and hazardous waste or industrial chemicals. There was

01:29 20 a distinction there that I was making.

01:29 21 Q. You would acknowledge that -- that PCB containing

01:30 22 materials were used as a depth suppressant generally and

01:30 23 accepted as such at some point in time, would you not?

01:30 24 A. I couldn't speak to that. I just know that it

01:30 25 was done here and resulted in substantial contamination,

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01:30 1 sir.

01:30 2 Q. But you don't know as a general proposition PCB

01:30 3 containing materials were used as a depth suppressant

01:30 4 throughout the state of Wisconsin at some point in time?

01:30 5 A. I don't know the history of use in the state of

01:30 6 Wisconsin to be able to respond to that, sir.

01:30 7 Q. Do you know the history of the use PCB containing

01:30 8 materials as a depth suppressant throughout the

01:30 9 United States?

01:30 10 A. I haven't made that evaluation. But my feelings

01:30 11 are, once again, these are industrial hazardous wastes

01:31 12 and should not be disposed this way. And that was

01:31 13 recognized back until the, you know, the '50s. And I

01:31 14 have references to that effect.

01:31 15 Q. But in regards to PCB containing materials, you

01:31 16 do not -- you don't have knowledge as to whether it was

01:31 17 a common practice to use PCB containing materials as a

01:31 18 depth suppressant up until the mid '70s. You don't have

01:31 19 any knowledge in respect to that?

01:31 20 A. I have not seen that in the material I've been

01:31 21 exposed to, no, sir.

01:31 22 Q. You stated, page 51, that there should be an

01:32 23 investigation of prevailing winds in order to better

01:32 24 understand the potential distribution of contaminants by

01:32 25 airborne deposition.

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01:34 1 any?

01:34 2 A. What I did relevant to that was to review the PAH

01:34 3 document. And the PAH document said that the

01:34 4 Madison-Kipp facility could be characterized by the

01:34 5 samples which have low molecular weight naphthalene

01:34 6 PAHs. And I looked at the location of those samples and

01:34 7 they were -- one of the was right in front of the oil

01:35 8 shed.

01:35 9 I then looked at the PAH distribution underneath

01:35 10 Madison-Kipp and I didn't see low molecular weight

01:35 11 naphthalene soils. So I didn't believe that that

01:35 12 characterization was correct.

01:35 13 What I then did was to look at the PAHs on these

01:35 14 folks' backyards. And I found that in every one of

01:35 15 their yards was benzo(a)pyrene, perhaps the worst of all

01:35 16 the PAHs. So every of the homes adjacent to

01:35 17 Madison-Kipp, we had benzo(a)pyrene.

01:35 18 And so the PAH document put together by ARCADIS

01:35 19 said, Well, we've got benzo(a)pyrene in all of the homes

01:36 20 around the area, and we don't have any benzo(a)pyrene at

01:36 21 Madison-Kipp; so therefore, Madison-Kipp is not source.

01:36 22 And so now that we have this new data, we have,

01:36 23 you know, lots of benzo(a)pyrene underneath the

01:36 24 foundation. So the whole premise of the PAH report now

01:36 25 is completely undermined.

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01:32 1 Do you see that?

01:32 2 And I'm referencing the last full paragraph.

01:32 3 Do you see that second sentence, page 51?

01:32 4 A. Page 51, second sentence, last full paragraph.

01:32 5 Q. Starts with This investigation....

01:32 6 A. I do, sir. This investigation goes....

01:32 7 Yes, sir.

01:32 8 Q. And you have not done a assessment -- an

01:32 9 assessment of prevailing winds, have you?

01:32 10 A. The assessment that I did had to do with the

01:32 11 winds associated with the exhaust fans. And that showed

01:32 12 me that there was a clear relationship between the

01:32 13 exhaust fans and the distribution of PAHs and the PCBs

01:33 14 along Waubesa, along the backyards of the homes on

01:33 15 Waubesa.

01:33 16 Q. That's in -- but in regard to the prevailing

01:33 17 winds and air deposition that come through the stacks,

01:33 18 you've not done an investigation of that; correct?

01:33 19 A. I have not, sir.

01:33 20 Q. Okay.

01:33 21 A. We looked at it, we considered it, felt it should

01:33 22 be done, but we didn't do it.

01:33 23 Q. Okay. Have you undertaken any study as to what

01:34 24 if any of the PAH found in the soils in the Class Area

01:34 25 are attributable to sources other than Madison-Kipp, if

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01:36 1 Q. But you yourself have not undertaken to ascertain

01:36 2 if any of the PAH located on the Class member's property

01:36 3 is from the source other than Madison-Kipp?

01:36 4 A. I've looked at other sources in the area, but I

01:36 5 haven't done that quantitative no, sir.

01:37 6 Q. Page 55, you reference a pilot program where you

01:37 7 recommend that three to five of the homes with the

01:37 8 highest VOC detection in shallow soil or subslab

01:37 9 vapor -- excuse me -- yeah -- and three to five of the

01:37 10 homes with the lowest VOC detections be equipped be

01:37 11 continuous monitoring equipment.

01:37 12 Do you see that?

01:37 13 A. I do, sir.

01:37 14 Q. And what continuous monitoring equipment do you

01:37 15 believe would provide the kind of data that you believe

01:38 16 is important in the program?

01:38 17 A. I believe that there is equipment out there that

01:38 18 can measure VOCs continuously to look at the change in

01:38 19 concentration over time. This is very new equipment but

01:38 20 it's, to my delight, available now.

01:38 21 Q. Can you give me the name of it, the manufacturer?

01:38 22 A. Yes R.J. Lee, sir.

01:38 23 Q. L-e-e?

01:38 24 A. Yes, sir.

01:38 25 Q. And what -- does the -- does the equipment have a

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01:38 1 common name?

01:38 2 A. Yes. It's called a proton transfer capability.

01:39 3 Q. Have you seen an R.J. Lee proton transfer capable

01:39 4 in action?

01:39 5 A. Have I physically stood next to it? No. But

01:39 6 I've been aware of it now for several months. And it

01:39 7 was a one of the key papers at my symposium two weeks

01:39 8 ago, sir.

01:39 9 Q. Are --

01:39 10 A. That's just one example of how it could be done.

01:39 11 Q. Are you aware of others?

01:39 12 A. Oh, yes. I think there is the ability to take

01:39 13 samples with frequency enough to determine whether there

01:39 14 is any dynamic behavior of these gasses.

01:39 15 Q. Is the R.J. Lee equipment and/or continuous

01:40 16 monitoring effective in the presence if a subslab

01:40 17 mitigation system?

01:40 18 A. Depends on where you're taking the samples, sir.

01:40 19 If you were taking it in the house, it would tell you

01:40 20 what the range is, the variations in the house.

01:40 21 If you were to use it to take subslab samples, it

01:40 22 would tell you what the dynamics are in the subslab.

01:40 23 If you were to take a soil gas sample at some

01:40 24 particular depth, it would tell you what the dynamics

01:40 25 are at that particular depth, sir.

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01:40 1 Q. Are the dynamics of which you speak impacted at

01:40 2 all by the presence of a subslab mitigation system, to

01:41 3 your knowledge?

01:41 4 A. If the system was on, I believe that it would

01:41 5 affect it, sir.

01:41 6 Q. And how?

01:41 7 A. Well, it would -- the subslab system is designed

01:41 8 to create a vacuum to aspirate, if you will, the gasses.

01:41 9 And that's going to artificially change the dynamics.

01:41 10 Q. And how would it artificially change the

01:41 11 dynamics?

01:41 12 A. It would tend to reduce concentration and alter

01:41 13 the natural behavior of the soil gasses.

01:41 14 Q. You're aware that there's an S- -- a soil vapor

01:41 15 extraction system that has been installed at

01:41 16 Madison-Kipp?

01:41 17 A. I am, sir.

01:41 18 Q. That -- and a term for that, if we used the term

01:42 19 SVE, do you know of which I speak?

01:42 20 A. Yes, sir.

01:42 21 Q. Okay. In your opinion, is the SVE system

01:42 22 installed at Madison-Kipp effective in providing a

01:42 23 remedy to the VOCs in the soil?

01:42 24 A. I think that the SVE system is a very good system

01:42 25 to reduce the VOCs in soil when you have the appropriate

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01:42 1 soil conditions.

01:42 2 And going further, what that means is that the

01:42 3 soil would have to have the capability of allowing

01:42 4 gasses to migrate. So if you have fine grain soils

01:42 5 salts and clays like we have here and you have high soil

01:43 6 moisture like we have here, SVE would have a very

01:43 7 limited application.

01:43 8 Does SVE help to knock down the mess? Yes.

01:43 9 But is it going to be the solution at this site?

01:43 10 I don't think so because of the clays and the high soil

01:43 11 moisture contents.

01:43 12 Q. And so in addition to, or as a substitute for the

01:43 13 SVE in regard to the soil, what's your recommended

01:43 14 remedy?

01:43 15 A. My recommended remedy would be to figure out

01:43 16 where the DNAPL is in the soil. Because in order get

01:43 17 these high concentrations at depth, it has to come in

01:44 18 the surface. So that means there has to be DNAPL in the

01:44 19 soil that hasn't been found yet.

01:44 20 Q. At a closer to the surface than what has, in your

01:44 21 opinion, been determined heretofore?

01:44 22 A. Yes, if -- if the facts are correct relative to

01:44 23 Mr. Lenz, they're dumping buckets out the door and it's

01:44 24 going down.

01:44 25 So then the question is: Where is the DNAPL?

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01:44 1 Because the DNAPL will move based on gravity, wherever

01:44 2 it wants to go based on gravity. So that is very hard

01:44 3 to track.

01:44 4 There hasn't been any DNAPL characterization here

01:44 5 so we don't know the what the source is.

01:44 6 And you would never use SVE to clean up a DNAPL

01:44 7 site.

01:44 8 Q. Have you evaluated at all the performance of the

01:44 9 SVE system to determine if it's removing soil vapors at

01:45 10 the site?

01:45 11 A. Oh, I believe it is removing vapors, sir. And I

01:45 12 think it is knocking down the mask, yes.

01:45 13 MR. WEISS: I'm sorry. Could you just

01:45 14 repeat your last answer.

01:45 15 THE WITNESS: I believe that the soil vapor

01:45 16 extraction system is working and that it is bringing

01:45 17 down the mask for the concentration in question.

01:45 18 And is it going to bring it down far enough

01:45 19 to justify shutting it off, and is it going to be to be

01:45 20 effective at all locations where we have fine grain

01:45 21 materials with a high soil moisture content?

01:45 22 Q. BY MR. BUSCH: At Exhibit 10 of your report, you

01:46 23 list the homes that you believe should have a reliable

01:46 24 subslab mitigation system; correct?

01:46 25 A. That's correct, sir, yes.

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01:46 1 Q. Have you communicated that fact, that is the fact
01:46 2 contained on Exhibit 10, have you communicated that to
01:46 3 the class members do you know?
01:46 4 A. I do know. And I have not done that and would
01:46 5 not do that.
01:46 6 Q. Why not?
01:46 7 A. It's not my place to do that, sir, so I wouldn't
01:46 8 do that.
01:46 9 Q. Do you know how many of the homes that you've
01:46 10 listed on Exhibit 10 have subslab depressurization
01:47 11 systems?
01:47 12 MR. BERGER: As right now as of now?
01:47 13 MR. BUSCH: Yeah. As of now.
01:47 14 MR. BERGER: If you know.
01:47 15 THE WITNESS: Well, the green ones, sir,
01:47 16 would be the ones that have it now, plus the new ones as
01:47 17 I understand it.
01:47 18 So on Exhibit 10, the homes in green have an
01:47 19 existing vapor extraction system.
01:47 20 Q. BY MR. BUSCH: Are you aware of the protocol that
01:47 21 the DNR has established the installation of subslab
01:47 22 depressurization systems?
01:47 23 A. I believe that I read that in Mr. Schmoller's
01:47 24 deposition, yes.
01:47 25 Q. And do you believe the protocol established by

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01:47 1 the DNR is consistent with your opinion as set forth in
01:47 2 page 57 and as demonstrated in Exhibit 10?
01:47 3 A. I believe that it is, sir, for the following
01:48 4 reasons: The regulator in this case was of the opinion
01:48 5 that he had multiple lines of evidence to feel
01:48 6 comfortable that these homes were not at risk.
01:48 7 The terms that he used was he wanted to know
01:48 8 where the sources were before he would give up, so to
01:48 9 speak, on these systems. So as long as there was a lack
01:48 10 of understanding where the sources were, he continued to
01:48 11 use that protocol.
01:48 12 And my position is exactly that: Even now, we
01:48 13 don't what the sources are. So if you don't know the
01:48 14 sources, you need to err on the side of families. And I
01:48 15 think that's the appropriate thing to do.
01:49 16 Q. Do you believe that the protocol established by
01:49 17 the DNR provides a ten-fold factor of safety above the
01:49 18 2012 screening levels establish by the EPA?
01:49 19 A. I don't know that because the site hasn't been
01:49 20 characterized in order make that decision, sir.
01:49 21 Q. So you don't believe that to be the case?
01:49 22 A. I believe that that kind of decision can only be
01:49 23 made when the site is characterized correctly.
01:49 24 Q. So the answer is you don't -- you don't agree
01:49 25 with that?

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01:49 1 A. Oh, I don't agree with that, sir.
01:49 2 Q. I'm sorry my question was not precise.
01:49 3 We spoke at length earlier about the potential
01:50 4 remedies once, in your opinion, the appropriate
01:50 5 characterization has been determine -- made, that long
01:50 6 term, in-situ chemical oxidation is a preferred remedy
01:50 7 but may need to be supplemented with a pumping -- I
01:50 8 don't know whether you call it a blocking mechanism?
01:50 9 A. Capture zone.
01:50 10 Q. Capture zone?
01:50 11 A. Sure. Yes, sir.
01:50 12 But I wouldn't agree with your characterization,
01:50 13 sir.
01:50 14 Q. How would you characterize the appropriate remedy
01:51 15 for the deep groundwater?
01:51 16 A. I think that it'd be ISCO, if I could use the
01:51 17 acronym.
01:51 18 Q. Yes.
01:51 19 A. The ISCO approach is fine for unconsolidated
01:51 20 materials. That means not the bedrock. The
01:51 21 unconsolidated materials would be where that would be
01:51 22 effective. If -- if one was able to inject the
01:51 23 oxidizing material into the fine grain salts and clays
01:51 24 to get enough spreading, enough impact in an area that
01:51 25 would clean it up, that kind of appreciation of the

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01:51 1 ability to inject material into salts and clays hasn't
01:51 2 been determined yet.
01:51 3 Secondly, when you get into the deep fractured
01:51 4 rock, that's quite difference. At these kinds of
01:52 5 depths, in my opinion, there will probably be an attempt
01:52 6 at ISCO, and that attempt will result in knocking down
01:52 7 the concentrations of the mass.
01:52 8 But I don't think it will come close to knocking
01:52 9 down the concentrations or the mask to an acceptable
01:52 10 level. And that means in order to clean up fractured
01:52 11 rock, you need to go to a more expensive technology and
01:52 12 I'm suggesting that that technology is six-phase
01:52 13 heating.
01:52 14 Q. Describe for me the six-phase heating technology.
01:52 15 A. At the national test site what was demonstrated
01:52 16 was we would characterize the site to begin with to try
01:53 17 to get a mass number, how much contamination was in a
01:53 18 certain air and then at strategical locations we would
01:53 19 drill down to the depth of concern. And then we would
01:53 20 introduce, in effect, electrodes over vertical profiles
01:53 21 from in the depth of the land surface. And then we
01:53 22 would introduce current into each one of these
01:53 23 electrodes. And what they would do is be to heat up the
01:53 24 rock above the vulcanization point of the PCE and TCE.
01:53 25 And that would cause all the gasses to vulcanize and to

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01:53 1 come up.

01:53 2 Q. Have you seen, other than at the national test

01:53 3 site, have you seen the six-phase heating technique used

01:53 4 in the field?

01:54 5 A. Oh, yes. When I was with Shaw, there was a

01:54 6 couple of large projects that we did.

01:54 7 Q. Do you have an understanding as to what the

01:54 8 cleanup levels will be for the site groundwater as set

01:54 9 by the DNR?

01:54 10 A. The -- the cleanup number expressed by

01:54 11 Mr. Johnson was the MCL, which is 5 parts per billion

01:54 12 for PCE. I think that's completely unrealistic and will

01:54 13 not happen.

01:54 14 So at some number above that is where we're going

01:54 15 to wind up being. The only question is: How do you

01:54 16 handle that?

01:54 17 Do you have deed restrictions?

01:54 18 Do you have deed restrictions that go beyond

01:54 19 Madison-Kipp?

01:55 20 It's called a site management plan, how do you

01:55 21 handle the situation when you know you are leaving

01:55 22 contamination in the ground.

01:55 23 MR. BUSCH: Norm, I'm going to have a few

01:55 24 more questions frankly I think I'll be able to

01:55 25 consolidate them as opposed to sitting here turning

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01:55 1 pages.

01:55 2 MR. BERGER: That's fine. Thank you.

01:55 3 THE VIDEOGRAPHER: Just a moment please. We

01:55 4 are off the record at 1:55 p.m.

02:05 5 (Recess taken: 1:55 p.m. to 2:05 p.m.)

02:05 6 THE VIDEOGRAPHER: We are back on the record

02:05 7 at 2:05 p.m.

02:05 8 Q. BY MR. BUSCH: Dr. Everett, to your knowledge, at

02:05 9 City Well 8 has there been detected any PCB?

02:06 10 A. I don't believe as yet, sir.

02:06 11 Q. To your knowledge, at City Well 8 has there been

02:06 12 detected any TCB?

02:06 13 A. I don't believe there has, sir.

02:06 14 Q. To your knowledge at City Well 8 there has been a

02:06 15 detection of cis-1,2-DCE?

02:06 16 A. Yes, sir.

02:06 17 MR. BUSCH: And that's cis, dash, one, dash,

02:06 18 two, dash, DCE.

02:06 19 Q. BY MR. BUSCH: Do you know if within the, I'll

02:06 20 call it a tributary -- and I probably have it wrong --

02:06 21 in the basin from which water drawn by City Well No. 8

02:06 22 whether there are potential sources of cis-1,2-DCE other

02:06 23 than Madison-Kipp?

02:06 24 A. I don't know for sure, that's but a possibility

02:07 25 some.

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02:07 1 Q. Have you done any investigation to ascertain

02:07 2 that?

02:07 3 A. What we did was to look at the tests that were

02:07 4 done relevant to turning on monitoring well, the No. 8,

02:07 5 and putting water level transducers in Monitoring

02:07 6 Well 5D2. And when it turned on Monitoring Well 8, the

02:07 7 water went down in Well 5D2. So that shows that there

02:07 8 is a direct hydraulic connection.

02:07 9 Secondly, we talked to the folks at the city and

02:07 10 as my material showed, they have a very high concern

02:07 11 about Madison-Kipp contaminating this well.

02:07 12 Third, they said that they are in the process,

02:08 13 but they're having some difficulty, putting in a

02:08 14 sentinel well. And a sentinel well, sir, simply means

02:08 15 they are going to put in another well in between a

02:08 16 Madison-Kipp and their well.

02:08 17 I think the location of that well will be

02:08 18 entirely different when they -- when they find out how

02:08 19 high the concentrations are in Madison-Kipp's most

02:08 20 southerly well which is Monitoring Well 17.

02:08 21 Q. Have you attempted to ascertain whether there are

02:08 22 any sources of cis-1,2-DCE at City Well 8 other than

02:08 23 MKC?

02:08 24 A. I'm sure that there are other contamination sites

02:09 25 in Madison, but I have not evaluated each of those

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02:09 1 relevant to the hydraulics or relevant to the kind of

02:09 2 contamination that they had or where that contamination

02:09 3 was relevant to the well.

02:09 4 Q. Have you looked at tests for other cities of

02:09 5 Madison Water Utility wells, look at the data?

02:09 6 A. I have not, sir.

02:09 7 Q. Are you aware as to whether there's any well, in

02:09 8 Madison that has detectable levels of PCE?

02:09 9 A. There may be.

02:09 10 But the City folks are most concerned about

02:09 11 Madison-Kipp relevant to this well, sir.

02:09 12 Q. Relative to 8. But I'm talking about other

02:09 13 wells.

02:09 14 Are you aware of any PCE appearing in other city

02:10 15 wells in the city of Madison?

02:10 16 A. I'm not aware of it.

02:10 17 Q. Are you aware if there's any TCE in other wells

02:10 18 in Madison?

02:10 19 A. I'm not aware of it, but I would expect that some

02:10 20 of them would have some below level hits, yes, sir.

02:10 21 Q. And why is that?

02:10 22 A. Because these are very, very persistent chemicals

02:10 23 and can be drawn into a large supply well.

02:10 24 Q. From a variety of sources; correct?

02:10 25 A. From a variety of sources, yes, sir.

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02:10 1 Q. What was the level of cis-1,2-DCE that was
02:10 2 reported at City Well 8?
02:10 3 A. Um, it was in the low parts per billion range I
02:10 4 believe, sir.
02:11 5 MR. BUSCH: I have completed my examination.
02:11 6 THE VIDEOGRAPHER: Just a moment, please.
02:11 7 This is the end of disk number two of volume
02:11 8 number one of the deposition of Lorne G. Everett, Ph.D.
02:11 9 on February of 14th of the year 2013. We are off the
02:11 10 record in our continuing deposition at 2:11 p.m.
02:11 11 (Recess taken: 2:11 p.m. to 2:17 p.m.)
02:17 12 THE VIDEOGRAPHER: This is the beginning of
02:17 13 media number three of volume one of the deposition of
02:17 14 Lorne G. Everett, Ph.D. on February the 14th, 2013. We
02:17 15 are continuing our deposition on record at 2:17 p.m.
02:17 16
02:17 17 EXAMINATION
02:17 18 BY MS. ROSS:
02:17 19 Q. Good afternoon, Dr. Everett.
02:17 20 A. Good afternoon.
02:17 21 Q. We introduced ourselves. I'm Rebecca Ross, and I
02:17 22 represent Continental Casualty Company and Columbia
02:17 23 Casualty Company.
02:17 24 A. Counsel, good afternoon.
02:17 25 Q. On Exhibit 2L, which I assume you still have in

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02:19 1 Q. Mr. Lenz?
02:19 2 A. Lenz.
02:19 3 And testimony of Mr. Schmoller.
02:19 4 Q. Do you know where the date of nineteen- -- the
02:19 5 late 1940s comes from?
02:19 6 A. I can't pinpoint that exactly but it was, I
02:19 7 believe, from those two sources.
02:19 8 Q. Do you know when the dumping and spilling of the
02:19 9 chemicals began?
02:20 10 A. I think the spilling of chemicals began very
02:20 11 early in the operation, depending on the chemicals,
02:20 12 meaning that very early in the operation of -- it was a
02:20 13 foundry. And in a foundry one has lubricants, oils, and
02:20 14 at a certain stage they began to bring in hydraulic
02:20 15 fluids. And those fluids had PCB in it.
02:20 16 So I think from the very beginning there was a
02:20 17 leakage, as you would expect, from a highly mechanized
02:20 18 operation.
02:20 19 Q. And then when did the dumping of chemicals, as
02:20 20 you understand it, begin?
02:20 21 MR. BUSCH: Object to the form.
02:20 22 THE WITNESS: I thought that the dumping
02:20 23 began in the late 1940s.
02:21 24 Q. BY MS. ROSS: And the basis -- did you rely on
02:21 25 Mr. Lenz for the late 1940s?

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02:17 1 front of you.
02:17 2 Do you have that document?
02:18 3 A. 2L.
02:18 4 I see it here.
02:18 5 Q. It's the study, I think.
02:18 6 A. Actually, this is 2L.
02:18 7 Q. Right, the handbook.
02:18 8 A. Yes.
02:18 9 Q. Do you know what the date is of that?
02:18 10 A. I do.
02:18 11 Q. What's that?
02:18 12 A. 1962. It's on the back page.
02:18 13 Q. Can you look at page 19 of your report, please.
02:18 14 A. I'm there, yes.
02:18 15 Q. On the bottom of that page, it begins with
02:18 16 Opinion No. 2, and it starts, "As acknowledged by
02:18 17 Madison-Kipp employees and WDNR, the company dumped and
02:18 18 spilled chemicals from the late 1940s until at least
02:19 19 1987."
02:19 20 Do you see that?
02:19 21 A. I do.
02:19 22 Q. Can you tell me where that information came from?
02:19 23 What did you rely on for that statement?
02:19 24 A. For that statement, I relied on the environmental
02:19 25 manager, Mr. James, um...

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02:21 1 A. It was a combination of Mr. Lenz and
02:21 2 Mr. Schmoller.
02:21 3 Q. Now, I believe in Mr. Bush's questioning of you,
02:21 4 he asked you about the next sentence, which was, "As
02:21 5 described in Opinion 2, this disposal behavior violated
02:21 6 applicable standards of conduct which, since the 1940s,
02:21 7 recognized that dumped and spilled chemicals could
02:21 8 contaminate groundwater, and that exposure to PCE could
02:21 9 harm humans."
02:21 10 Is that correct?
02:21 11 A. I believe so, yes.
02:21 12 Q. And this is a place where I had a little trouble
02:21 13 hearing you. I know you indicated that there was a
02:21 14 Banks paper on which you relied for that statement; is
02:21 15 that correct?
02:21 16 A. That would be one of them; that's correct.
02:21 17 Q. Was there anything else that you relied on for
02:21 18 that statement?
02:21 19 A. Yes.
02:21 20 Q. What else did you rely on?
02:22 21 A. There is another reference or two that I relied
02:22 22 on. I want to say the name Conter or Conti.
02:22 23 Q. How do you spell that?
02:22 24 A. C-o-n-t-e-r. But I'm -- I'm sure I don't have that
02:22 25 quite right. I would check in the references to see if

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02:22 1 we have it.

02:22 2 Actually, it's Colten.

02:22 3 Q. Colten, C-o-l-t-o-n [sic].

02:22 4 A. That's correct.

02:22 5 Q. And --

02:22 6 A. And Colten and Skinner.

02:22 7 Q. Is that a report or a study or what is that

02:22 8 document?

02:22 9 A. There's actually two documents there, and they're

02:22 10 like chapters in a document. So they're, like, review

02:22 11 papers.

02:22 12 Q. And did those documents deal with applicable

02:23 13 standards of conduct?

02:23 14 A. They dealt with what we knew and the way we

02:23 15 should behave in that conduct.

02:23 16 Q. When was the -- when were those chapters written?

02:23 17 A. Harvey Banks' work was in the 50's, I believe.

02:23 18 Mr. Colten's work was in -- published in 1991,

02:23 19 but it's a historical perspective.

02:23 20 And Colten and Skinner's perspective was written

02:23 21 in 1996. But once again, it's a historical perspective

02:23 22 as well.

02:23 23 Q. Did Colten and Skinner indicate any basis for a

02:23 24 belief that the types of action that Madison-Kipp

02:23 25 allegedly undertook from the late 1940s until 1987

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02:26 1 you couldn't dump free flowing liquids on the ground.

02:26 2 Q. BY MS. ROSS: Other than the documents which

02:26 3 you're referring to which I believe was 12; is that

02:26 4 correct?

02:26 5 A. That's correct; yes.

02:26 6 Q. Are there any other ASTM standards that relate to

02:26 7 PCE from the 1950s and the 1960s?

02:26 8 A. There was a, actually, another document that

02:26 9 Mr. Johnson referred to. But, I didn't bring that one

02:26 10 with me. But it was in that same time frame.

02:26 11 Q. When you talk about violating applicable

02:26 12 standards of conduct, are you talking about written

02:26 13 standards?

02:26 14 A. I'm talking about written standards, not in the

02:27 15 purest sense of an ASTM standard, which is quite

02:27 16 different, but in terms of a standard of care which is

02:27 17 as written up and is identified as a way to do business

02:27 18 in an acceptable fashion.

02:27 19 Q. The -- other than the three or four documents

02:27 20 that we have talked about, are there any other documents

02:27 21 that you are aware of in literature or otherwise,

02:27 22 that -- that were written prior to 1970 which stated

02:28 23 that exposure to PCE could harm humans?

02:28 24 MR. BERGER: Other than the documents cited

02:28 25 in his report?

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02:24 1 violated applicable standards of conduct?

02:24 2 A. I believe that it does, yes.

02:24 3 Q. Is there anything else that you relied on with

02:24 4 respect to that statement?

02:24 5 A. Just my experience, which says that industrial

02:24 6 chemical disposal was a major issue because they were

02:24 7 being disposed in landfills and causing lots of problems

02:24 8 in landfills. And as a result, we saw the emergence of

02:24 9 hazardous waste landfills to handle these industrial

02:24 10 chemicals.

02:24 11 And so the experience over time was that

02:25 12 disposing of industrial chemicals causes harm.

02:25 13 Q. Did the manufacturers of industrial chemicals

02:25 14 provide information to their customers concerning the

02:25 15 proper disposal of chemicals between the late 1940s and

02:25 16 1987?

02:25 17 MR. BERGER: I'm sorry. Could I have that

02:25 18 question read back, please.

02:25 19 (The last question was read by the reporter.)

02:25 20 THE WITNESS: I haven't tracked that. But

02:25 21 when one thinks in terms of industry in America, they

02:25 22 typically think of American Society for Testing of

02:25 23 Materials, which develops the standards for industry.

02:25 24 And very clearly, back in 1962, there was

02:26 25 this appreciation that, at least with respect to PCE,

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02:28 1 MS. ROSS: Other than the documents we just

02:28 2 discussed.

02:28 3 MR. BERGER: Well, there are other documents

02:28 4 cited in the report that we haven't discussed with him.

02:28 5 Q. BY MS. ROSS: I think you can answer.

02:28 6 MR. BERGER: If you're talking about that

02:28 7 one issue.

02:28 8 MS. ROSS: We're talking about the statement

02:28 9 made at the bottom of page 19 of the report.

02:28 10 THE WITNESS: The -- each of the references

02:28 11 that we have been discussing has a long bibliography

02:28 12 associated with that, and I didn't bring in all those

02:28 13 documents. I just brought these examples; so...

02:28 14 Q. BY MS. ROSS: What --

02:28 15 A. So these are examples.

02:28 16 Q. At what point in time would you say it was

02:28 17 well-known that exposure to PCE could cause harm to

02:29 18 humans?

02:29 19 MR. BUSCH: Object to the form. Lack of

02:29 20 foundation.

02:29 21 THE WITNESS: Um, my appreciation of PCE was

02:29 22 as an industrial chemical and so it was lumped into all

02:29 23 of the other industrial chemicals and how they should be

02:29 24 handled and disposed. So that's the first part.

02:29 25 The second part is that the understanding of

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02:29 1 the toxicological problems with the PCE is a -- is a bit
 02:29 2 of a moving target. As we've seen with EPA, they're
 02:30 3 actually now relaxing some of the criteria for PCE and
 02:30 4 that's been quite recent. While at the same time, the
 02:30 5 degradation product TCE is now proving to be more
 02:30 6 onerous. So the toxicological history of these
 02:30 7 chlorinated hydrocarbons has been evolving.
 02:30 8 Q. BY MS. ROSS: Is there a point in time at which
 02:30 9 you can say in your expert opinion that it was
 02:30 10 well-known in the United States that exposure to PCE
 02:30 11 could harm humans?
 02:30 12 MR. BUSCH: Object to the form. Lack of
 02:30 13 foundation.
 02:30 14 MR. BERGER: Objection to the form.
 02:30 15 Other than his report. His -- in his report
 02:30 16 he says it's unknown.
 02:31 17 MS. ROSS: Objection to form is noted.
 02:31 18 THE WITNESS: I personally became more
 02:31 19 involved with PCE as an issue in the early '80s. And so
 02:31 20 the concern was whether PCE was a possible carcinogen or
 02:31 21 was it a probably carcinogen that's the kind of verbiage
 02:31 22 that I saw of all the.
 02:31 23 Q. BY MS. ROSS: And --
 02:31 24 MR. BERGER: She's not talking about cancer
 02:31 25 here; she's talking, as I understand it, any health

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02:31 1 effects.
 02:31 2 Q. BY MS. ROSS: Your statement on page 19 --
 02:31 3 A. Yes.
 02:31 4 Q. -- was that exposure to PCE could harm humans --
 02:31 5 A. Yes.
 02:31 6 Q. -- correct?
 02:31 7 MR. BERGER: Let her --
 02:31 8 Q. BY MS. ROSS: And --
 02:31 9 MR. BERGER: Let her finish the question.
 02:31 10 Q. BY MS. ROSS: In your opinion, you indicated that
 02:32 11 um, the disposal behavior violated applicable standards
 02:32 12 of conduct which, since the 1940s, recognized that
 02:32 13 dumped and spilled chemicals can contaminate
 02:32 14 groundwater.
 02:32 15 That's one part.
 02:32 16 A. Yes.
 02:32 17 Q. And that exposure to PCE could harm humans?
 02:32 18 A. Yes.
 02:32 19 Q. And what I'm trying to find out want is I want
 02:32 20 you to divide those up.
 02:32 21 A. Yes.
 02:32 22 Q. And I'm looking at exposure to PCE could harm
 02:32 23 humans. And I'm asking you at what point in time was
 02:32 24 it -- was it clear that the disposal behavior that you
 02:32 25 are talking about could result in exposure to PCE that

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02:32 1 would harm humans -- or could harm humans.
 02:32 2 MR. BERGER: What I would say is she's
 02:32 3 reading a prefatory sentence of your opinion. And I
 02:32 4 would read your pages 19 through whatever it is, 24 or
 02:33 5 so, that follow.
 02:33 6 MS. ROSS: And I would ask if you want to
 02:33 7 object to form, you object to the form.
 02:33 8 Q. BY MS. ROSS: And otherwise, I'd like you to
 02:33 9 answer the question I asked.
 02:33 10 MR. BUSCH: And I would object to the form.
 02:33 11 THE WITNESS: May I look at the...?
 02:33 12 MR. BERGER: Yes, you may.
 02:33 13 Q. BY MS. ROSS: Sure.
 02:33 14 (Pause in the proceedings.)
 02:36 15 THE WITNESS: Well, on page 23 in the third
 02:36 16 paragraph down, there is an example given which I shall
 02:36 17 read. States: "For example, recognizing the need to
 02:36 18 limit workers' exposure, the U.S. Public Health Service
 02:37 19 published Maximum Allowable Concentrations for workplace
 02:37 20 exposures two PCE and other chemicals or early as 1943."
 02:37 21 So there's kind of a historical record where
 02:37 22 the public health felt that there was a public health
 02:37 23 issue associated with PCE. So that would be 1943.
 02:37 24 Q. BY MS. ROSS: Is there any other basis other than
 02:37 25 what we've -- what we have discussed for your statement

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02:37 1 concerning knowledge in the 1940s that PCE could harm
 02:37 2 humans?
 02:37 3 MR. BERGER: Same objection. It's been
 02:37 4 asked and answered.
 02:37 5 THE WITNESS: Just all the references that
 02:38 6 are contained within the references that I provided to
 02:38 7 you.
 02:38 8 Q. BY MS. ROSS: Okay. On page 20 of your report,
 02:38 9 at the very top, you talk about, "...even when strict
 02:38 10 environmental protection statutes and regulations were
 02:38 11 enacted in the 1970s and 1980s, Madison-Kipp nonetheless
 02:38 12 continued to spill and dump these chemicals."
 02:38 13 Do you see that?
 02:38 14 A. I do.
 02:38 15 Q. And what strict environmental protection statutes
 02:38 16 and regulations are you referring to?
 02:38 17 A. I'm referring to the Safe Drinking Water Act.
 02:38 18 Q. Anything else?
 02:38 19 A. I'm referring to the Resource Conservation
 02:38 20 Recovery Act.
 02:38 21 I'm referring to Superfund and the Superfund
 02:39 22 Amendments as being examples of that.
 02:39 23 Q. Immediately following that, you talk about,
 02:39 24 "...applicable standards of conduct violated by
 02:39 25 Madison-Kipp included: containment and capture measures

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02:39 1 for vapor degreasers, so that PCE is re-captured for
02:39 2 reuse, and not released to the environment."

02:39 3 Do you see that?

02:39 4 A. Yes, I do.

02:39 5 Q. What are you referring to in terms of applicable
02:39 6 standard of conduct?

02:39 7 A. The standard of conduct that I'm referring to is
02:39 8 the position of the United States Department of Defense
02:39 9 during the Second World War where PCE and TCE were
02:40 10 rationed and very strictly controlled to support war
02:40 11 effort. And that it would have been unacceptable to
02:40 12 simply dispose of PCE without trying recycle it and to
02:40 13 conserve it since it was such a needed part of the war
02:40 14 effort.

02:40 15 Q. And that would be during World War II?

02:40 16 A. That's correct.

02:40 17 Q. And apart from the need in World War II, is there
02:40 18 any other standard of conduct that requires spent PCE to
02:40 19 be recaptured?

02:40 20 MR. BERGER: Well --

02:40 21 THE WITNESS: Just the ASTM requirement that
02:40 22 says -- that was formalized in 1962.

02:41 23 And, as I've mentioned, I've been a chairman
02:41 24 within ASTM for a long time. And sometimes these
02:41 25 standards take as long as six years to get to this

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02:41 1 point. Some of my standards took six years.
02:41 2 So although it's published in 1962, what was
02:41 3 known about it was being formalized in this document.
02:41 4 I'm sure was the standard of care several years earlier
02:41 5 than that, and that puts it in the '50's.
02:41 6 Q. BY MS. ROSS: And you're looking at 2L; is that
02:41 7 right?
02:41 8 A. Yes, I am.
02:41 9 Q. Did you have anything to do with the promulgation
02:41 10 of that standard?
02:41 11 A. I'm much too young to have worked on that one.
02:41 12 Q. The second one of the applicable standards that
02:41 13 you said were violated by Madison-Kipp was "containment
02:42 14 for PCE (and other chemical) storage tanks, so that
02:42 15 chemicals escaping the tanks are not released to the
02:42 16 environment."
02:42 17 Do you see that?
02:42 18 A. Yes, I.
02:42 19 Q. And where -- what applicable standards of conduct
02:42 20 are you referring to for that particular --
02:42 21 MR. BERGER: Again, objection to the form.
02:42 22 In addition to the ones he's already
02:42 23 identified?
02:42 24 THE WITNESS: Um, for example, in RCRA,
02:42 25 there's requirements for secondary containment

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02:42 1 associated with storage tanks and a particular hazardous
02:42 2 waste or hazardous materials storage tanks. And there
02:42 3 was no secondary containment associated with the PCE at
02:42 4 Madison-Kipp; that, in fact, the releases from that
02:43 5 above ground storage tank contributed to -- contributed
02:43 6 substantially to the contamination at the site.
02:43 7 Q. BY MS. ROSS: With respect to the last statement
02:43 8 that you made that the releases from the above ground
02:43 9 storage tank contributed to contamination, are you
02:43 10 relying on Lenz for that?
02:43 11 A. Partially. What I'm really relying on is the
02:43 12 fact that I walked over to where the tank was.
02:43 13 I looked at the asphalt surface in that area
02:43 14 where the tank was, and it hadn't been characterized.
02:43 15 I looked where the drainage would go from that
02:43 16 area. And the drainage would go into a partially
02:43 17 subsurface sewer. And that subsurface sewer then went
02:43 18 into another sewer and then daylighted into an area on
02:44 19 the northeast of the facility. And so I personally saw
02:44 20 how any leakage from that tank would wind up going right
02:44 21 into the ground.
02:44 22 Q. Were there standards of conduct that prohibited
02:44 23 the dumping and spilling PCE on the bare ground other
02:44 24 than what you have referred to in Exhibit 2L?
02:44 25 MR. BERGER: And otherwise in the report?

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02:44 1 MS. ROSS: No. I asked the question I
02:44 2 asked.
02:44 3 MR. BERGER: Okay. Well...
02:44 4 THE WITNESS: The --
02:44 5 MR. BERGER: If she's asking you to memorize
02:44 6 everything in the report, you can just read it to her.
02:44 7 MS. ROSS: Mr. Berger, I would
02:45 8 appreciate --
02:45 9 (Simultaneous colloquy between counsel.)
02:45 10 MS. ROSS: -- this -- I have the right to
02:45 11 ask the questions I want to ask and your commentary is
02:45 12 not necessary.
02:45 13 MR. BERGER: Okay.
02:45 14 You can -- you can...
02:45 15 THE WITNESS: As we just shared earlier,
02:45 16 there are other references that speak to that, and I
02:45 17 think I've shared those with you.
02:45 18 Q. BY MS. ROSS: So you have shared with me all the
02:45 19 references of which you're presently aware?
02:45 20 A. Including this other report, yes.
02:45 21 Q. In the fourth bullet point you refer to disposing
02:45 22 of spent PCE and other dangerous chemical wastes in an
02:45 23 approved facility.
02:45 24 Do you see that?
02:45 25 A. Yes, I do.

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02:45 1 Q. What do you -- what are you referring to when
02:45 2 you're talking about an "approved facility"?

02:45 3 A. The -- the evolution of the problem with respect
02:45 4 to industrial wastes as recognized first in the '40's
02:46 5 and '50s was -- '40's and '50s was these industrial
02:46 6 wastes were disposed in landfills to try to address the
02:46 7 issue of not disposing of them in the ground. So they
02:46 8 were originally disposed of in landfills and these
02:46 9 landfills became badly contaminated.

02:46 10 And so with the realization that landfills were
02:46 11 not -- landfills, the way they were constructed earlier,
02:46 12 were not a good way to dispose of spent PCE.

02:46 13 With the advent of RCRA, we got into more
02:46 14 advanced engineered advanced waste disposal facilities
02:46 15 that were specifically designed to handle PCE and other
02:47 16 high level waste.

02:47 17 Q. And did those more advanced waste disposal
02:47 18 facilities come about at the same time RCRA did?

02:47 19 A. They came along shortly after it was passed in
02:47 20 1974, yes.

02:47 21 Q. At page 21, you indicated that, in the second
02:48 22 paragraph on page 21, that at Madison-Kipp, the PCE
02:48 23 stored above ground storage tanks had no secondary
02:48 24 containment and worse, one tank area was intentionally
02:48 25 sloped to a surface drain that discharged to a garden

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02:48 1 area along the bike path and, unsurprisingly, is now a
02:48 2 serious line source of contamination.

02:48 3 Do you see that?

02:48 4 A. Yes, I do.

02:48 5 Q. Is the basis for the factual statements in there
02:48 6 your own observation or something else?

02:48 7 A. No, it's my own observation that where that tank
02:48 8 was placed, there's a clear slope, even to the degree
02:48 9 that there is a drainage connection that is, in my
02:48 10 estimation, would be an engineered drainage ditch
02:49 11 because of the slope. Slope goes directly to the
02:49 12 drainage ditch. And then that drainage ditch runs along
02:49 13 Madison-Kipp's facility and then goes off to the north
02:49 14 east of the Madison-Kipp property. So that was
02:49 15 intentionally designed that way.

02:49 16 Q. In the period of time from 1976 through the end
02:49 17 of nineteen -- the end of the 1980s, in your
02:49 18 experience, did most above ground storage tanks holding
02:49 19 chemicals such as a PCE have a secondary containment
02:49 20 system building?

02:49 21 A. I believe that they moved to that kind of
02:49 22 protection in that time frame, yes.

02:49 23 Q. Other than when you say they moved into that
02:50 24 during that time period, when did it become common, to
02:50 25 the best of your knowledge, for companies that had PCEs

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02:50 1 stored in above ground storage tanks to have a secondary
02:50 2 containment system?

02:50 3 MR. BUSCH: Object to the form. Lack of
02:50 4 foundation.

02:50 5 THE WITNESS: I believe that much of RCRA
02:50 6 became implementable in the early to mid '80s.

02:50 7 Q. BY MS. ROSS: Is it your opinion -- is it your
02:50 8 expert opinion that Madison-Kipp knew that its practices
02:50 9 would cause harm to the environment?

02:50 10 MR. BUSCH: Object to the form. Lack of
02:50 11 foundation.

02:50 12 THE WITNESS: It's my expert opinion that
02:51 13 Madison-Kipp knew there were cost saving advantages to
02:51 14 this kind of disposal, but I don't think that there was
02:51 15 an intent. I think there was a cost advantage that they
02:51 16 were taking advantage of.

02:51 17 Q. BY MS. ROSS: So what you're saying is that they
02:51 18 knew that it could harm the environment but they thought
02:51 19 that it was more important to save costs?

02:51 20 MR. BUSCH: Object to the form of the
02:51 21 question. Lacks foundation.

02:51 22 THE WITNESS: I think that they knew that
02:51 23 disposing of industrial chemicals in this fashion was
02:51 24 not acceptable.

02:51 25 And I think that the reason that they

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02:51 1 continued to do it was because they felt that they
02:51 2 could, one, get away with it, and two, that there was a
02:52 3 cost advantage to do it.

02:52 4 Q. BY MS. ROSS: Is it your expert opinion that
02:52 5 Madison-Kipp knew that its practices could cause harm to
02:52 6 people surrounding and homes surrounding the
02:52 7 Madison-Kipp facility?

02:52 8 MR. BUSCH: Object to the form. Lack of
02:52 9 foundation.

02:52 10 MR. BERGER: Yeah. I don't think
02:52 11 that's -- he hasn't opined on that.

02:52 12 You can answer if you have an opinion on it.

02:52 13 THE WITNESS: My opinion that Madison-Kipp's
02:52 14 behavior was reckless in light of the closeness of the
02:52 15 homes to where they were dumping free flowing PCE.

02:53 16 Q. BY MS. ROSS: Are you aware of what efforts other
02:53 17 companies undertook to prevent chemicals such as PCE
02:53 18 from migrate in soil or soil vapor or groundwater?

02:53 19 MR. BUSCH: I object.

02:53 20 Q. BY MS. ROSS: And we're talking about the period
02:53 21 of time between the 1950s and 1980.

02:53 22 MR. BUSCH: Object to the form. Lack of
02:53 23 foundation.

02:53 24 THE WITNESS: I wrote a book on this
02:53 25 subject. Just trying to figure out the exact year of

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02:53 1 it. So if you could kindly bear with me till I find my
02:53 2 book section here.

02:53 3 Q. BY MS. ROSS: Sure.

02:53 4 (Pause in the proceedings.)

02:53 5 THE WITNESS: Well, I was asked to write a
02:54 6 book on the subject of monitoring RCRA facilities
02:54 7 Subtitle C facilities in 1996. And so I'd been working
02:54 8 on that for a long time and that's why I was asked to
02:54 9 write that book.

02:54 10 So my thoughts are that, as I mentioned, the
02:55 11 mid 1980s, these activities needed to be kind of
02:55 12 implemented and then they got into, Well, how you going
02:55 13 to monitor them. And I was asked to write this book how
02:55 14 you monitor them.

02:55 15 Q. BY MS. ROSS: Between 1960 and 1980, were there
02:55 16 steps that other companies undertook to prevent
02:55 17 chemicals from getting to the soil and groundwater that
02:55 18 Madison-Kipp did not take to the best of your knowledge?

02:55 19 MR. BUSCH: Object to the form.

02:55 20 THE WITNESS: Yes. The best example is the
02:55 21 1962 ASTM guidance upon how to handle vapor degreasers,
02:55 22 which I believe were the main application of PCE in that
02:55 23 time frame.

02:55 24 Q. BY MS. ROSS: Are there other things that other
02:55 25 companies did that you're aware of?

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02:55 1 A. Well, they would have condensers on their
02:55 2 degreasers to recover the PCE.
02:55 3 They would have stills on their degreasers to
02:56 4 recover the PCE from the stills. There were ways of
02:56 5 getting rid of the sludge from the stills. I didn't see
02:56 6 evidence that Madison-Kipp did any of that.
02:56 7 Q. At the bottom of page 21, you say that you
02:56 8 can -- "In the opinion described in detail below, I
02:56 9 conclude that Madison-Kipp violated applicable standards
02:56 10 of conduct both in its handling and disposal of these
02:56 11 chemicals on the Madison-Kipp site from the 1950s to
02:56 12 1987 and in its failure to adequately address the
02:56 13 problem."
02:56 14 With respect to the last portion of that that
02:56 15 says "adequately address the problem," what are you
02:56 16 talking about?
02:57 17 MR. BERGER: You can read the report if you
02:57 18 need to refresh.
02:57 19 (Pause in the proceedings.)
02:57 20 MR. BERGER: There's -- I just want to
02:57 21 object. There's a 15-page section of the report that
02:58 22 addresses that. You're pulling off introductory
02:58 23 sentence out of here and --
02:58 24 MS. ROSS: I'm just asking what he's
02:58 25 referring to. I think he can answer what he represents.

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02:58 1 THE WITNESS: Yes, I'm -- I'm referring to
02:58 2 the long discussion of that theme that followed your
02:58 3 comment.
02:58 4 Q. BY MS. ROSS: Can you give me an example of what
02:58 5 you're talking about with respect to its failure to
02:58 6 adequately address the problem.
02:58 7 And let me tell you what my issue is. Are you
02:58 8 talking about its failure to adequately address the
02:58 9 problem from 1994 forward?
02:58 10 Or are you talking about their failure to address
02:58 11 the problem between the 1950s and 1987?
02:58 12 A. Actually both.
02:58 13 Q. Both.
02:58 14 A. Yes.
02:58 15 Q. With respect to the period of time between the
02:58 16 1950s and 1987, what are you referring to in terms of
02:58 17 the failure to address the problem?
02:59 18 A. At the minimum, the Wisconsin statute, the Spill
02:59 19 Law of 1977.
02:59 20 MR. BUSCH: Move to strike.
02:59 21 Q. BY MS. ROSS: What about the Wisconsin Spill Law
02:59 22 from 1977 demonstrates a failure to adequately address
02:59 23 the problem?
02:59 24 MR. BUSCH: Object to form.
02:59 25 THE WITNESS: I believe that the Madison

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02:59 1 statute, called the 1977 Spill Law, required that
02:59 2 Madison-Kipp determine the extent of the contamination
02:59 3 and to clean up and properly dispose of the
02:59 4 contaminants.
02:59 5 So this law is 1977. And as we've learned
02:59 6 through much of today, the extent of the contamination
03:00 7 is still not understood and only appears to be getting
03:00 8 worse.
03:00 9 MR. BUSCH: Move to strike.
03:00 10 Q. BY MS. ROSS: Do you have any information of any
03:00 11 type that Madison-Kipp knew that its property was
03:00 12 contaminated by 1977 or at any point before 1994?
03:00 13 MR. BUSCH: Lack of foundation. Object.
03:00 14 THE WITNESS: I just know that in the time
03:00 15 frame of when they paved over those parking lots, that
03:00 16 Madison-Kipp began to do the right thing. And it wasn't
03:00 17 because of goodness of their heart, it was because
03:00 18 they're disposal area had been paved over.
03:00 19 And so the time frame for when that occurred
03:00 20 was somewhere between 1971 or 1976.
03:01 21 Q. BY MS. ROSS: On page 22 of your report --
03:01 22 A. Yes.
03:01 23 Q. -- you indicated that, "While scientific
03:01 24 knowledge and environmental regulations have evolved in
03:01 25 the last decades, it was widely appreciated at least

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03:01 1 since the 1950s that dumping such industrial chemicals
03:01 2 on the ground could cause subsurface contamination."

03:01 3 Do you see that?

03:01 4 A. Yes, I do.

03:01 5 Q. Other than the things we've talked about, are you
03:01 6 referring to anything else when you talked about it was
03:02 7 widely appreciated?

03:02 8 A. Um --

03:02 9 MR. BUSCH: Object to the form.

03:02 10 THE WITNESS: Just Greg Colten documents;
03:02 11 Colten and Skinner; Harvey Banks. Those would be three
03:02 12 references that I would submit to you.

03:02 13 Q. BY MS. ROSS: The next sentence says, "It was
03:02 14 also widely understood during those years that
03:02 15 chlorinated solvents such as PCE and TCE were especially
03:02 16 persistent in the environment, and that exposure to
03:02 17 these chemicals could cause adverse effects."

03:02 18 Do you see that?

03:02 19 A. Yes, I do.

03:02 20 Q. And what is the basis for the statement that is
03:02 21 it was widely understood?

03:02 22 MR. BUSCH: Object to the form.

03:02 23 THE WITNESS: The basis for that was the
03:03 24 contamination that these chemicals posed to the
03:03 25 landfills as I mentioned. And the fact that since they

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03:03 1 were man-caused microbes through evolution, hadn't got
03:03 2 to a point where they would break down because there was
03:03 3 nothing out there that would contribute to their
03:03 4 breakdown. And so they were persistent.
03:03 5 And then the health effects issue came into
03:03 6 play as represented by the U.S. Public Health Service in
03:03 7 1943.
03:03 8 Q. BY MS. ROSS: When you say that it was widely
03:04 9 understood during those years that solvents such as PCE
03:04 10 and TCE were persistent in the environment and could
03:04 11 cause adverse health effects, are you saying that
03:04 12 Madison-Kipp knew that?
03:04 13 MR. BUSCH: Object to the form.
03:04 14 THE WITNESS: What I'm saying is that
03:04 15 Madison-Kipp didn't have any technical capability in how
03:04 16 to appreciate this problem. Their environmental
03:04 17 manager, who had been there a long time, wasn't trained
03:04 18 in any of these -- any of these environmental issues.
03:04 19 Q. BY MS. ROSS: Are you saying that a responsible
03:04 20 company would clearly recognize that solvents such as
03:05 21 PCE and TCE could cause adverse health effects?
03:05 22 MR. BUSCH: Object to the form.
03:05 23 THE WITNESS: I would expect that a company
03:05 24 of Madison-Kipp's size would either have professional
03:05 25 capability inhouse or would seek it through consulting

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03:05 1 firms.
03:05 2 Q. BY MS. ROSS: Are you saying that would be the
03:05 3 responsible thing for a company like Madison-Kipp to do?
03:05 4 MR. BUSCH: Object to form.
03:05 5 THE WITNESS: I would say so.
03:05 6 Q. BY MS. ROSS: And the next paragraph you start
03:05 7 out by saying Madison-Kipp's improper chemical disposal
03:05 8 practices in the '50s, '60s, '70s and '80s were not
03:05 9 representative of industry standards.
03:05 10 Do you see that?
03:05 11 A. Yes, I do.
03:05 12 Q. What industry standards are you referring to in
03:05 13 that sentence?
03:05 14 MR. BUSCH: Object to the form.
03:06 15 MR. BERGER: We've been down this road a
03:06 16 number of times. He's testified a lot. It's been asked
03:06 17 and sustained -- asked and answered. And asking the
03:06 18 same question with respect to different pieces of
03:06 19 sentences is not appropriate.
03:06 20 You can --
03:06 21 Q. BY MS. ROSS: You can answer the --
03:06 22 MR. BERGER: -- answer again.
03:06 23 Q. BY MS. ROSS: Can you answer the question.
03:06 24 A. The ASTM 1962 Standard that speaks to this very
03:06 25 issue. Once again, it's the American Society for

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03:06 1 Testing of Materials, so it's a national body.
03:06 2 Although it's dated 1962, these standards are the
03:06 3 result of several years of understanding. So that would
03:06 4 put it back into the '50s.
03:06 5 Q. Okay. Is there anything else that you're
03:06 6 referring to when you're talking about industry
03:06 7 standards in the '50s, '60s, '70s, and '80s?
03:06 8 MR. BERGER: Objection. It's been asked and
03:06 9 answered. He's made a number of references to a number
03:06 10 of pieces of the report, Ms. Ross.
03:07 11 THE WITNESS: I have -- my ideas on this
03:07 12 subject are included in my document, and we've shared
03:07 13 some of those references.
03:07 14 Q. BY MS. ROSS: I guess what I'm trying to figure
03:07 15 out, throughout your report you talk about applicable
03:07 16 standards.
03:07 17 A. Yes.
03:07 18 Q. And you regularly indicate that Madison-Kipp's
03:07 19 actions violated applicable standards --
03:07 20 A. Yes.
03:07 21 Q. -- right.
03:07 22 When you use that, are you always referring in
03:07 23 their circumstances to the ASTM report 2L? Is that what
03:07 24 you're referring to primarily?
03:07 25 MR. BERGER: Same objection. He's cited to

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03:07 1 a number of articles in here. He has references and
03:07 2 standards to state statutes, federal statutes.
03:07 3 MS. ROSS: He can answer the question.
03:07 4 MR. BERGER: He has, about a dozen times.
03:07 5 And it's not appropriate to ask the same question with
03:08 6 respect to a different word in the report. It's
03:08 7 badgering.
03:08 8 MS. ROSS: Can I ask --
03:08 9 MR. BERGER: There's thousands of words in
03:08 10 this report. The fact that you can preface the question
03:08 11 with a different word does not make it appropriate.
03:08 12 MS. ROSS: Okay. So your objection to form
03:08 13 was noted.
03:08 14 Q. BY MS. ROSS: Can you --
03:08 15 MR. BERGER: Well, it's --
03:08 16 Q. BY MS. ROSS: Can you --
03:08 17 MR. BERGER: It's not just to form. It's
03:08 18 harassment.
03:08 19 MS. ROSS: It's not harassing.
03:08 20 MR. BERGER: You can take whatever position
03:08 21 you'd like, but this is not going to go on much longer.
03:08 22 Q. BY MS. ROSS: Do you need the question asked back
03:08 23 or do you know the answer?
03:08 24 MR. BERGER: I think he answered the
03:08 25 question.

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03:08 1 THE WITNESS: My answer's going to be that
03:08 2 you and I are sharing the same documents over and over.
03:08 3 Q. BY MS. ROSS: And all I'm trying to do is to find
03:08 4 out whether when you refer to standards throughout this
03:08 5 report, are you referring to those same documents that's
03:08 6 the basis for those standards?
03:08 7 A. I'm referring to all the documents referenced in
03:08 8 this section, yeah, that's correct.
03:09 9 Q. You refer in the -- one, two, three -- fourth
03:09 10 paragraph, to the 1974 EPA study.
03:09 11 Do you see that?
03:09 12 A. Yes, I do.
03:09 13 MR. BERGER: Are you on page 22 still?
03:09 14 MS. ROSS: Yes.
03:09 15 THE WITNESS: Yeah.
03:09 16 Q. BY MS. ROSS: Prior to the EPA study in 1974, was
03:09 17 there knowledge that practices such as Madison-Kipp's
03:09 18 would cause damage to the environment?
03:09 19 MR. BUSCH: Object to the form.
03:09 20 THE WITNESS: Oh, I believe so.
03:09 21 Q. BY MS. ROSS: And what such studies are you aware
03:09 22 of that are prior to 1974?
03:10 23 MR. BUSCH: Same objection.
03:10 24 THE WITNESS: The document in 1962.
03:10 25 Q. BY MS. ROSS: And is that the only one you're

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03:10 1 aware of as you sit hire?
03:10 2 A. No. There's the Harvey Banks' document. There's
03:10 3 the Colten document.
03:10 4 Q. Okay.
03:10 5 A. The Colten Skinner document. The ones that we've
03:10 6 shared.
03:10 7 Q. Okay.
03:10 8 MR. BERGER: We really need to move on.
03:10 9 MS. ROSS: You need to quit interrupting my
03:10 10 examination of the witness.
03:10 11 MR. BERGER: You and I disagree.
03:10 12 Q. BY MS. ROSS: On page 23 of your report --
03:10 13 Let's see if I can get the right place.
03:10 14 You say, "The link between industrial waste
03:10 15 disposal and groundwater pollution was widely understood
03:10 16 by the 1950s and synthetic organic chemicals like PCE
03:11 17 were particularly problematic because of their
03:11 18 persistence in the environment."
03:11 19 Do you see that?
03:11 20 A. I'm sorry. I don't see that.
03:11 21 Q. I'm sorry. On the page 23, the top --
03:11 22 A. Yes.
03:11 23 Q. -- the paragraph, last three lines.
03:11 24 A. Beginning with "Rather...."?
03:11 25 Q. Beginning with, "The link...."

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03:11 1 A. I see. Thank you.
03:11 2 Q. That's fine.
03:11 3 A. Between the industrial...
03:11 4 Yes, I see that.
03:11 5 Q. Okay. Other than things we have been talking
03:11 6 about, do you rely on anything else with respect to this
03:11 7 sentence?
03:11 8 MR. BUSCH: Object to the form.
03:11 9 THE WITNESS: Just all the references that
03:11 10 are in this section.
03:11 11 Q. BY MS. ROSS: Okay. And were there studies of
03:12 12 PCE in the 1950s looking at its potential harm to the
03:12 13 environment?
03:12 14 A. Oh, there's the work by Lynn McLaughlin in 1944
03:12 15 that speaks to the persistence of these chemicals.
03:12 16 Q. Is that the only one you're aware of?
03:12 17 A. That, in addition to the other ones that we've
03:12 18 talked about.
03:12 19 Q. The other studies that you've talked about were
03:13 20 either studies that were done in the 1990s that had a
03:13 21 historical perspective in it or the ASTM report which is
03:13 22 2L, and I'm looking for ones that were available in the
03:13 23 1950s.
03:13 24 A. Well, the Public Health Service documents in 1943
03:13 25 were certainly there; so...

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03:13 1 Q. That related to the PCE exposure to employees?

03:13 2 A. Yes.

03:13 3 Q. What was the standard that the Public Health

03:13 4 Service established in 1943 as the maximum allowable

03:13 5 concentration for workplace exposures; do you know?

03:13 6 MR. BUSCH: Object to the form.

03:13 7 MR. BERGER: To PCEs is the question?

03:14 8 MS. ROSS: Yes.

03:14 9 MR. BERGER: If you recall.

03:14 10 THE WITNESS: I don't recall that number.

03:14 11 Q. BY MS. ROSS: On the bottom of page 23, you

03:14 12 reference a 1956 report from the Manufacturer Chemists

03:14 13 Association.

03:14 14 Did that report address environmental

03:14 15 consequences of PCE?

03:14 16 MR. BUSCH: Object to the form.

03:14 17 THE WITNESS: I believe it addressed the

03:14 18 issue of persistence and the need to not haphazardly

03:14 19 dispose of the PCE.

03:15 20 Q. BY MS. ROSS: Okay. So -- so you believe it

03:15 21 specifically addressed PCE?

03:15 22 MR. BUSCH: Object to the form.

03:15 23 THE WITNESS: Yes.

03:15 24 Q. BY MS. ROSS: Page 27 of your report, toward the

03:15 25 bottom, you quote a question and an answer to Mr. Lenz.

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03:15 1 Do you see that?

03:15 2 A. Yes, I do.

03:15 3 Q. And in this you cite that to support your

03:15 4 understanding that Mr. Lenz thinks that Madison-Kipp

03:15 5 hasn't adequately addressed are the PCE contamination;

03:15 6 is that right?

03:16 7 A. That's correct.

03:16 8 Q. But on page 24 of your report, you indicate that

03:16 9 Mr. Lenz isn't a licensed engineer, right?

03:16 10 A. He is not.

03:16 11 Q. And that he has no environmental training?

03:16 12 A. That's correct.

03:16 13 Q. And no environmental courses?

03:16 14 A. That's correct.

03:16 15 Q. And no groundwater contamination training?

03:16 16 A. That's correct.

03:16 17 Q. And no remediation training?

03:16 18 A. That's correct.

03:16 19 Q. And no vapor intrusion testing?

03:16 20 A. That's correct.

03:16 21 Q. And no training in PCE handling practices?

03:16 22 A. That's my understanding.

03:16 23 Q. But you think that he's capable of making the

03:16 24 decision on whether Madison-Kipp adequately addressed

03:16 25 its contamination problem?

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03:16 1 MR. BERGER: Object to the form.

03:16 2 MR. BUSCH: Join.

03:16 3 THE WITNESS: I support his statement. And

03:16 4 the reason is that he did a historical understanding of

03:17 5 what their practices were and was of the opinion that

03:17 6 there was very little being done to address the problem.

03:17 7 Q. BY MS. ROSS: Do you think that he is qualified

03:17 8 to make the determination on whether Madison-Kipp has

03:17 9 adequately addressed PCE contamination problem?

03:17 10 MR. BUSCH: Object to form.

03:17 11 THE WITNESS: I think he was the most

03:17 12 knowledgeable individual there. Mr. Coleman, the head

03:17 13 of the company said that Mr. Lenz was the most

03:17 14 knowledgeable person there.

03:17 15 Was he the best trained person there? No,

03:17 16 not by any means.

03:17 17 But was he the most knowledgeable person

03:17 18 there? I would say yes.

03:17 19 Q. BY MS. ROSS: On -- let's see. At the beginning

03:17 20 of that paragraph it says, "Until about one year ago,

03:17 21 the opportunity for any meaningful environmental

03:18 22 investigation had been marred by Madison-Kipp's

03:18 23 inaction...."

03:18 24 Do you see that?

03:18 25 A. Yes, I do.

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03:18 1 Q. And what happened a year ago?

03:18 2 A. I believe that approximately a year ago a suit

03:18 3 was filed against Madison-Kipp.

03:18 4 Q. And -- well, is the filing of the suit --

03:18 5 Strike that.

03:18 6 Are you saying in this sentence that beginning

03:18 7 about a year ago Madison-Kipp started acting?

03:18 8 A. Forgive me. Acting...?

03:18 9 Q. Okay. Resolving the issues concerning the

03:18 10 contamination.

03:18 11 A. I believe that about a year ago there was a

03:19 12 dramatic shift in Madison-Kipp's behavior, not just in

03:19 13 response to the suit from Mr. Berger and Mr. Collins but

03:19 14 also in response increasing pressure from the State.

03:19 15 And so there they embarked upon a expensive

03:19 16 program of characterization that could and should have

03:19 17 been done 19 years earlier.

03:19 18 Q. Do you believe that Madison-Kipp was presently

03:19 19 investigating and remediation -- remediating the

03:19 20 contamination at Madison-Kipp's facility?

03:19 21 A. I believe that they currently are making an

03:20 22 attempt to characterize the site. However, I think that

03:20 23 the characterization is more in defense of the lawsuit

03:20 24 than a, a defensible characterization program.

03:20 25 For example, it's only at the end of the year

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03:20 1 that we're even looking at the sources underneath
 03:20 2 Madison-Kipp.
 03:20 3 It's only as of this morning that we now find out
 03:20 4 that they're trying to find out what's going on under
 03:20 5 the facility.
 03:20 6 They've kind of tried to, I would say, backdoor
 03:20 7 it by concentrating on these folks that live in the area
 03:20 8 without really addressing the source of the problem.
 03:20 9 MR. BUSCH: Move to strike.
 03:20 10 Q. BY MS. ROSS: What is your basis for your belief
 03:21 11 that their actions were solely in order to defend the
 03:21 12 lawsuit?
 03:21 13 MR. BUSCH: Object to form.
 03:21 14 MR. BERGER: Objection to form.
 03:21 15 THE WITNESS: Well, the 1994 letter said you
 03:21 16 need to characterize the vertical and horizontal
 03:21 17 distribution of the contamination; and that you need to
 03:21 18 do that in a timely way to prevent an expansion of the
 03:21 19 contaminated area.
 03:21 20 And they hadn't done that for 19 years;
 03:21 21 therefore, the contamination is much larger than needed
 03:21 22 to be.
 03:21 23 Q. BY MS. ROSS: How many sites have you been
 03:21 24 involved with where the contamination was of the kind of
 03:21 25 significance that you have claimed with respect to

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03:22 1 Madison-Kipp?
 03:22 2 MR. BERGER: Objection to the form of the
 03:22 3 question.
 03:22 4 If you understand that.
 03:22 5 Q. BY MS. ROSS: If you don't understand, tell me
 03:22 6 and I'll rephrase it.
 03:22 7 A. This is one of the worse sites that I've seen,
 03:22 8 mostly because of the DNAPL level of contamination in
 03:22 9 deep fractured rock that has moved so far offsite in
 03:22 10 fractured rock.
 03:22 11 Q. With respect to other sites that you have been
 03:22 12 involved with that have extensive contamination, what is
 03:22 13 the shortest and the longest period of time that it's
 03:22 14 taken to obtain an approved remedial plan?
 03:22 15 MR. BUSCH: Object to the form.
 03:22 16 THE WITNESS: The -- I can't give that
 03:23 17 because it -- it would involve going through a whole
 03:23 18 bunch of projects over my 40 years of involvement.
 03:23 19 But I will answer that is that an approved
 03:23 20 remedial plan happens after a remedial investigation and
 03:23 21 feasibility study to determine what the plan should be.
 03:23 22 The remedial investigation is a characterization of the
 03:23 23 facility to understand the conceptual model and to
 03:23 24 understand the distribution and extent of the
 03:23 25 contamination. We're not there then. We're not even

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03:23 1 there yet. So to talk in terms of a real plan is really
 03:23 2 jumping the gun I think.
 03:23 3 Q. BY MS. ROSS: I think what I'm trying to get a
 03:23 4 sense of is the length of time, in your experience, it
 03:23 5 takes from the first letter to the time that you have an
 03:24 6 approved remedial plan.
 03:24 7 A. It varies by site. But it wouldn't be
 03:24 8 unreasonable to be looking at a characterization time
 03:24 9 frame of oh, one to three years. And an approval of a
 03:24 10 remedial plan couple years after that. So we're
 03:24 11 probably looking at five, approximately five years, I
 03:24 12 would say.
 03:24 13 Q. And there are a number of sites where that
 03:24 14 process is taken incredibly longer; isn't that correct?
 03:24 15 A. Depending on the complexity, it could take much
 03:24 16 longer.
 03:24 17 Q. And there are sites where it has taken decades;
 03:24 18 isn't that correct?
 03:24 19 A. There are increasing realization that some sites
 03:24 20 are never going to be cleaned up. And I think this is
 03:24 21 going to be one of them.
 03:24 22 Q. But there are a number of sites throughout the
 03:25 23 country where the time frame from the initial letter to
 03:25 24 the entity to the time that a remediation plan is
 03:25 25 approved is decades long; isn't that correct?

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03:25 1 A. It could be depending on the complexity; that's
 03:25 2 true.
 03:25 3 MS. ROSS: That's all I have. Thank you.
 03:25 4 THE WITNESS: Thank you.
 03:25 5 THE VIDEOGRAPHER: Just a moment, please.
 03:25 6 We are off the record at 3:25 p.m.
 03:25 7 (Recess taken: 3:25 p.m. to 3:26 p.m.)
 03:26 8 THE VIDEOGRAPHER: We are back on the record
 03:26 9 at 3:26 p.m.
 03:26 10
 03:26 11 EXAMINATION
 03:26 12 BY MR. COHEN:
 03:26 13 Q. Dr. Everett, my name is Michael Cohen. We have
 03:26 14 met before. I represent defendant U.S. Fire Insurance
 03:26 15 Company.
 03:26 16 I'm going to apologize in advance; going to jump
 03:26 17 around a little bit. That's what happens when you go
 03:26 18 third in order in asking questions after a long day.
 03:26 19 A. I understand, sir.
 03:26 20 Q. With respect to Exhibit 1 your expert report,
 03:26 21 was -- was any portion of your expert report written in
 03:26 22 whole or in part by Plaintiff's counsel in this case?
 03:27 23 A. There was no part of it written in whole or in
 03:27 24 part by the attorneys in this case, sir.
 03:27 25 Q. Were you sent any proposed revisions for you to

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03:27 1 consider?

03:27 2 A. There were discussions of our opinions but there

03:27 3 was no recommendations to change any of the opinions.

03:27 4 Q. Did you receive any faxed proposed revisions or

03:27 5 reline of your report with comments or additional

03:27 6 proposed changes to the report from counsel?

03:27 7 A. Not that I'm aware of.

03:27 8 Q. Was there any information that you asked of

03:27 9 counsel that you wanted to see that you weren't provided

03:27 10 to assist you in developing your opinions?

03:27 11 A. I believe that there were a number of document

03:27 12 requests that were made, yes.

03:27 13 MR. BERGER: He wants to know that you were

03:27 14 not given.

03:28 15 THE WITNESS: Oh, that with we were not --

03:28 16 Q. BY MR. COHEN: Correct.

03:28 17 A. Forgive me. No. Each of the things that we

03:28 18 asked for were provided, yes.

03:28 19 Q. And you had mentioned, I think, one item that you

03:28 20 wanted to do with respect to developing your opinions

03:28 21 that you weren't able to do. I think it was the air

03:28 22 particulate analysis; is that right?

03:28 23 A. That was one.

03:28 24 There were a number of things that one could do

03:28 25 that should have been done that are ARCADIS should be

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03:28 1 doing that I hadn't seen being done. So do I have

03:28 2 recommendations on what should be done going forward, I

03:28 3 have those recommendations.

03:28 4 Q. I think I've heard those.

03:28 5 A. Yeah.

03:28 6 Q. And your report addresses them.

03:28 7 What I'm really asking is something different.

03:28 8 Something that you wanted to do in preparation for your

03:28 9 opinions in this case that you did not do for one reason

03:28 10 or another?

03:28 11 A. No, there was nothing like that, sir, no.

03:29 12 Q. You cite to Mr. Lenz's deposition several times

03:29 13 throughout your report.

03:29 14 A. Yes.

03:29 15 Q. Did you read the entire transcript of that

03:29 16 deposition?

03:29 17 A. I did, sir.

03:29 18 Q. And you refer to Mr. Schmoller's deposition

03:29 19 several times.

03:29 20 Did you read that entire transcript?

03:29 21 A. Every word, sir.

03:29 22 Q. And how many volumes were there?

03:29 23 A. There were at least two that I recall.

03:29 24 Q. Okay. Let's turn, if we can, to page 22 of your

03:29 25 report.

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03:29 1 A. Yes, sir.

03:29 2 Q. Ms. Ross was asking you about support for your

03:30 3 opinions, particularly in this first paragraph. And you

03:30 4 cited to Colten and Colten and Skinner, and I believe

03:30 5 you also mentioned Banks.

03:30 6 Did you specifically do research to support the

03:30 7 opinions that appear in this Opinion 2 for this case, or

03:30 8 did you have some resources or a library of materials

03:30 9 that -- at your office that you were familiar with that

03:30 10 you knew of and plugged into the report?

03:30 11 A. A combination of the two, sir.

03:30 12 Q. Okay. And did you have someone do a literature

03:30 13 search to support --

03:30 14 And I'm just interested --

03:30 15 A. Yes.

03:30 16 Q. -- right now in Opinion No. Two.

03:30 17 Did someone on your staff, or yourself, do a

03:30 18 literature search or do some research to support some of

03:30 19 these opinions with respect to what was known at a given

03:30 20 point in time about PCEs or their effect on the

03:30 21 environment or their effect on human health?

03:31 22 A. We're a modest-sized company, and so I don't have

03:31 23 anybody that does literature searches. So the

03:31 24 literature searches that we do are either done by

03:31 25 Dr. Wells or my senior engineer or Dr. Fogwell, that

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03:31 1 individual that I expected to be onboard here this time.

03:31 2 And we did our own independent evaluation that has

03:31 3 culminated in this representation here.

03:31 4 Q. Okay. So for example, the references here on

03:31 5 page 22 that, to Colten, 1991 --

03:31 6 By the way, that's Craig Colten; right?

03:31 7 A. That's correct, sir.

03:31 8 Q. Have you met him?

03:31 9 A. I haven't had the pleasure.

03:31 10 Q. Do you know what his background is?

03:31 11 A. I do not.

03:31 12 Q. And Colten and Skinner, 2006, are those resources

03:31 13 that you found or someone else?

03:31 14 A. Those are resources that we had come across as

03:32 15 part of other cases.

03:32 16 Q. That's really what I was asking before. So these

03:32 17 are things you knew of through your analysis, research,

03:32 18 and in relation to other cases that you knew you could

03:32 19 plug in here?

03:32 20 A. Part of it, yes, sir. This is an, one example of

03:32 21 a previous case.

03:32 22 For example, the Banks case was a dry cleaner job

03:32 23 some months ago where the -- the level of understanding

03:32 24 of the threat from PCE was at issue. And so I

03:32 25 personally did a review and found Harvey Banks' paper.

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03:32 1 This one here, I believe, was found by Dr. Wells,
 03:32 2 so there was a team looking for support for our
 03:32 3 opinions.
 03:32 4 Q. I think you said the Banks case and then you were
 03:32 5 referring to the piece of literature authored by
 03:32 6 Mr. Banks.
 03:32 7 Did you intend to do that?
 03:32 8 A. It's -- there's only one Banks document.
 03:33 9 Q. Okay. You referred to a Banks case --
 03:33 10 A. Oh.
 03:33 11 Q. -- that you were working on.
 03:33 12 A. Forgive me. It was a dry cleaner case where the
 03:33 13 Banks paper became an issue.
 03:33 14 Q. And which case was that?
 03:33 15 A. It was a dry cleaner in Southern California.
 03:33 16 Q. And the name of it?
 03:33 17 A. I'm going to say that it's either the
 03:33 18 bands -- the Carlsbad Dry Cleaner case.
 03:33 19 Q. And have you issued a written opinion in that
 03:33 20 case?
 03:33 21 A. I don't -- I'm not sure.
 03:33 22 Q. Okay.
 03:33 23 A. I could find out, but I'm not sure.
 03:33 24 Q. Would there be other expert reports that you
 03:33 25 authored where this last sentence here (as read), In

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03:34 1 MR. BERGER: Objection to the form.
 03:34 2 THE WITNESS: There -- there maybe, but I'd
 03:34 3 have to go looking for it, sir.
 03:35 4 Q. BY MR. COHEN: In other words, when you decided,
 03:35 5 or whoever in your office, decided to cite to Colten and
 03:35 6 Colten and Skinner, did you have a conversation or did
 03:35 7 someone say to you in words or in effect: Let's use
 03:35 8 this piece from this other report and we can cite the
 03:35 9 Colten and Skinner, or whatever the resources were, in
 03:35 10 that report?
 03:35 11 A. No, it didn't come out that way.
 03:35 12 Q. Did you write this paragraph or did someone else
 03:35 13 in your office?
 03:35 14 A. We collectively write it. We have it on our
 03:35 15 computers and all three of us are participating in it.
 03:35 16 Q. How does that work?
 03:35 17 A. The document becomes a living document.
 03:35 18 Q. Okay.
 03:35 19 A. So we all have access to it.
 03:35 20 Q. You don't all sit three in a row next to the
 03:35 21 computer and one takes turns and the other types a
 03:35 22 little bit?
 03:35 23 A. The answer each has their own office; so...
 03:35 24 Q. Okay. These resources --
 03:35 25 By the way, I didn't see Banks cited here. Is

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03:33 1 this context, at the time Madison-Kipp was conducting
 03:33 2 dumping, it would have known and should have known that
 03:33 3 the practice of dumping industrial chemicals into the
 03:33 4 ground could cause serious contamination -- I'm sorry --
 03:34 5 serious environmental harm; cite, Colten; Colten and
 03:34 6 Skinner.
 03:34 7 Are there other reports where you have said the
 03:34 8 same thing but used a different facility that you're
 03:34 9 talk about or entity that you're referring to?
 03:34 10 MR. BERGER: Objection to the form.
 03:34 11 Q. BY MR. COHEN: What I'm trying to really get at
 03:34 12 is, is this an opinion that you lifted from another
 03:34 13 matter that you had already cited Colten or Colten and
 03:34 14 Skinner either in sum or substance and used in this
 03:34 15 report?
 03:34 16 A. These are references related to the historical
 03:34 17 understanding of PCE and TCE in the country that I would
 03:34 18 refer to when this issue came up.
 03:34 19 Q. That I got.
 03:34 20 A. Yeah.
 03:34 21 Q. Okay. My question's a little different. Is
 03:34 22 there another report that you have authored where if you
 03:34 23 take the word "Madison-Kipp" out, you've said in sum or
 03:34 24 substance the same thing and cited to these types of
 03:34 25 resources?

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03:35 1 that a reason why, at least in the text, you didn't cite
 03:35 2 Banks? Maybe it's in the references at the end. But is
 03:36 3 there a reason you didn't refer to it specifically like
 03:36 4 you did for Colten and Colten and Skinner her on
 03:36 5 page 22?
 03:36 6 A. There's no reason for it other than this issue
 03:36 7 has come up on number of occasions. And I know these
 03:36 8 papers, and I haven't included them all. But the
 03:36 9 Harvey Banks' paper is the one I recall at the moment,
 03:36 10 sir.
 03:36 11 Q. Okay. And if you were to go and try to find or
 03:36 12 ask someone to find where you kept these materials, is
 03:36 13 that on your computer?
 03:36 14 Do you guys have a library in your office?
 03:36 15 How does that work?
 03:36 16 A. Depends on when the case was. We don't keep any
 03:36 17 drafts. We don't keep any e-mails. So it depends on
 03:36 18 the case, sir, and then circumstance.
 03:36 19 Q. Well, for example, let's assume one of your
 03:36 20 colleagues referenced Colten here or Colten and Skinner
 03:36 21 at the end of this sentence when you were preparing
 03:36 22 this, and you wanted to go look and look at that
 03:36 23 particular piece of literature --
 03:37 24 A. Yes.
 03:37 25 Q. -- what would you do?

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03:37 1 A. I would go back to the case list that I have and
03:37 2 I would look at whether there was any kind of a file on
03:37 3 record that we had kept, any of the documents, and I
03:37 4 would search that, sir.
03:37 5 Q. And other than the dry cleaning case that you
03:37 6 told me about, are there any other cases that you think
03:37 7 you used Colten or Colten and Skinner or Banks to refer
03:37 8 to to support your opinions?
03:37 9 A. Oh, I think there are because of the behavior of
03:37 10 PCE and TCE actually comes up in a lot of my cases.
03:37 11 Q. Okay. Can you think of any?
03:37 12 You've got a whole list of cases. Any that come
03:37 13 to mind that you would have cited to these literature
03:37 14 sources?
03:37 15 A. Could have been on --
03:37 16 For example, on the Kraft case, sir.
03:37 17 Q. So if I was to look up your expert report in the
03:37 18 Kraft case, if I could find it, you're thinking that
03:38 19 perhaps you have a citation to Colten, Colten and
03:38 20 Skinner or Banks, you have all three of them?
03:38 21 A. That's probably yeah.
03:38 22 Q. Any others?
03:38 23 A. None that jump out.
03:38 24 Q. On the bottom of page 23, in the last paragraph,
03:38 25 you were asked about this by Ms. Ross. You cite to this

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03:38 1 1956 report from the Manufacturer's Chemists
03:38 2 Association.
03:38 3 Do you see that?
03:38 4 A. I do, sir.
03:38 5 Q. Is that the report that provided the basis for
03:38 6 your testimony here today and other areas in your report
03:38 7 where you talked about the behavior of the PCE and
03:38 8 landfills, the experience in landfills?
03:38 9 A. No, sir.
03:38 10 Q. Is that something else?
03:38 11 A. This has to do with degreasers; and that's
03:39 12 something else, yes.
03:39 13 Q. When you were talking about the behavior of PCE,
03:39 14 the experience of it landfills, were you referring to
03:39 15 resource material piece of literature?
03:39 16 A. I was referring to Harvey Bank work, Colten's
03:39 17 work, related to disposing of industrial chemicals and
03:39 18 how they have had disastrous effect on the landfills
03:39 19 around the world.
03:39 20 Q. On the next page, you quote Colten here and you
03:39 21 say -- 23 onto 24 -- Colten concluded that even as early
03:39 22 as 1940, the risk associated with surface discharge the
03:39 23 chemicals was understood..."
03:39 24 And then you have a quote from his 1991 treatise,
03:40 25 right, or book?

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03:40 1 A. Yes, sir.
03:40 2 Q. And he talked about here being -- you see the
03:40 3 reference to (as read), "Legal precedent, though
03:40 4 inconsistent, proved that there was simple awareness of
03:40 5 the physical processes in the financial liabilities
03:40 6 before 1950 to expect careful disposal of liquid waste
03:40 7 to a land surface."
03:40 8 Do you know what he was talking about, legal
03:40 9 precedent inconsistent?
03:40 10 MR. BUSCH: Object to the form.
03:40 11 THE WITNESS: I don't know what he had in
03:40 12 his mind no, sir.
03:40 13 Q. BY MR. COHEN: Did you review this passage before
03:40 14 you authored this report?
03:40 15 A. I'm simply using it as a reference. The I have
03:40 16 not -- the insight into Mr. Colten's understanding of
03:40 17 what legal precedent is.
03:40 18 Q. My question was, Did you review this passage
03:40 19 before it was --
03:40 20 MR. BERGER: Did you read it?
03:40 21 Q. BY MR. COHEN: -- report?
03:40 22 A. Yes. Sure.
03:40 23 Q. Okay. So you wouldn't be able to tell me how the
03:40 24 legal precedent was inconsistent on the point that he's
03:41 25 raising here?

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03:41 1 A. I wouldn't be able to speak for him on that
03:41 2 issue, no.
03:41 3 Q. Are you aware of any other sources of material
03:41 4 that support the point here that as early as 1940s, the
03:41 5 risk associated with surface discharge of chemicals was
03:41 6 understood?
03:41 7 A. Um, well, there's the U.S. Public Health 1943
03:41 8 position that an exposure to PCE causes harmful effects.
03:41 9 There was Harvey Banks paper that since he was in
03:41 10 the business back in those days and saw the, these kind
03:41 11 of discharges cause problems.
03:41 12 Q. Did the U.S. Health paper talk about surface
03:42 13 discharges in particular?
03:42 14 A. It is --
03:42 15 MR. BUSCH: Object to the form.
03:42 16 THE WITNESS: The U.S. Public Health does
03:42 17 talk in terms of exposure.
03:42 18 Q. BY MR. COHEN: Okay.
03:42 19 A. So whether that's surface discharges or work
03:42 20 remediations.
03:42 21 Q. Now, can you turn to page 52, please.
03:42 22 A. Sure.
03:42 23 Q. It is your opinion in this case that the PAHs
03:42 24 that are present in the Class Area properties, the
03:42 25 source of that is Madison-Kipp; correct?

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03:42 1 A. My position is that the PAHs are largely
03:42 2 contributed by Madison-Kipp. I'm not going to argue
03:43 3 there is a broader of issue of PAHs in the area. But
03:43 4 I'm indicating that if one looks at the concentrations
03:43 5 close to Madison-Kipp, we get higher concentration.
03:43 6 Q. Okay.
03:43 7 A. And that indicates the source.
03:43 8 Q. In the first full paragraph here, about midway
03:43 9 through, you have a sentence that reads, "If one wanted
03:43 10 to identify the PAHs, there are well known forensic
03:43 11 techniques such as hydrocarbon fingerprinting which
03:43 12 could have provided insight into the source of the
03:43 13 PAHs."
03:43 14 Right?
03:43 15 A. Yes, sir.
03:43 16 Q. Before you came to your conclusion that -- and I
03:43 17 don't mean to put words in your mouth -- but the
03:43 18 predominant source of the PAHs are the primary source,
03:43 19 or whatever you said, was that -- was Madison-Kipp.
03:43 20 Did you do this type of analysis?
03:43 21 A. Did -- did I --
03:43 22 Q. Yes.
03:43 23 A. -- do any fingerprinting for this case?
03:43 24 Q. Correct.
03:43 25 A. What I did was I would term it forensic

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03:44 1 appreciation.
03:44 2 I looked at the fans that were discharging along
03:44 3 Waubesa. And I then went back and looked at the PAH
03:44 4 numbers relative to those fans. And I did it on a
03:44 5 concentration basis. And that result showed that there
03:44 6 was a higher concentration closer to the fans and less
03:44 7 concentration as one got away from the fans.
03:44 8 That to me, kind of a smoking gun approach which
03:44 9 says that the fans were the cause of the PAHs in that
03:44 10 area. And then further, the PCBs are within the PAHs.
03:44 11 And we know that along Waubesa, there is a major
03:45 12 excavation program to dig up the backyards of a number
03:45 13 of our clients' homes.
03:45 14 Q. I understood that from your testimony today. My
03:45 15 question is a little bit different.
03:45 16 Before you came to the conclusion that the
03:45 17 predominant or primary source, whatever the terminology
03:45 18 you used, of PAHs was Madison-Kipp, you did not do a
03:45 19 hydrocarbon fingerprinting analysis like you refer to
03:45 20 here in your report; correct?
03:45 21 A. Oh, I did not, sir.
03:45 22 MR. COHEN: Okay. Bear with me. I have a
03:45 23 few more follow-ups.
03:45 24 (Pause in the proceedings.)
03:45 25 Q. MR. COHEN: When Ms. Ross was asking you some

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03:46 1 questions, you said that the source of your opinions
03:46 2 about Madison-Kipp's practices of dumping and spilling
03:46 3 chemicals were Mr. Lenz and Mr. Schmoller's deposition
03:46 4 transcripts?
03:46 5 A. Yes.
03:46 6 Q. Okay. And what is your understanding of the
03:46 7 basis of Mr. Schmoller's knowledge about those
03:46 8 practices?
03:46 9 A. My understanding was that he, with some
03:46 10 frequency, interacted with personnel from Madison-Kipp
03:46 11 and through that interaction gained his insights.
03:46 12 Q. Well, did he testify that he interviewed
03:46 13 Mr. Lenz?
03:46 14 A. I don't recall that he said that he interviewed
03:46 15 Mr. Lenz.
03:46 16 Q. Did he testify that at that time that he was
03:46 17 deposed he had seen Mr. Lenz's deposition transcript?
03:46 18 A. I don't believe that I recall that that was in
03:47 19 there, and that's one of my big criticisms.
03:47 20 My criticism was that Mr. Lenz was probably the
03:47 21 most knowledgeable person and ARCADIS should have went
03:47 22 to him, as well as others, to get a better understanding
03:47 23 of where the source was of this contamination, as best
03:47 24 as he knew and with his little qualifications. He still
03:47 25 had the historical understanding because he'd been there

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03:47 1 for 30 years.
03:47 2 Q. You saw in Mr. Johnson's report reference to some
03:47 3 interviews that he had with other long term Madison-Kipp
03:47 4 employees; correct?
03:47 5 A. I did see that.
03:47 6 Q. All right. And I take it you know nothing about
03:47 7 what they know other than what Mr. Johnson reported?
03:47 8 A. I only know what Mr. Johnson represented in his
03:48 9 expert report.
03:48 10 Q. When Ms. Ross was asking you about the above
03:48 11 ground storage tank, you were offering your observations
03:48 12 that you went over to that area during your site
03:48 13 inspection and you saw a clear slope and you thought
03:48 14 that the drainage system was, using your term, I think,
03:48 15 engineered, the drainage ditch and the way that it
03:48 16 sloped down. And I think you used the words it was
03:48 17 intentionally designed that way.
03:48 18 Is that fair?
03:48 19 A. It was -- it was intentionally designed that way,
03:48 20 yes.
03:48 21 Q. And when is it that you believe that that area
03:48 22 was intentionally designed that way?
03:48 23 MR. BUSCH: Object to the form.
03:48 24 THE WITNESS: I don't know the evolution of
03:49 25 that area in term of the drainage for the system. But

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03:49 1 it appeared to me that based on the slope that that was
 03:49 2 engineered, the drainage was at the bottom of the slope
 03:49 3 as you would expect with a drainage system. And so I
 03:49 4 think that it was clearly intentional.
 03:49 5 But as to the evolution of that area, you
 03:49 6 know, for decades and decades, I don't know what they
 03:49 7 did there.
 03:49 8 Q. BY MR. COHEN: Do you know, for example, whether
 03:49 9 the drainage system existed before the above ground
 03:49 10 storage tank was moved to that area?
 03:49 11 MR. BUSCH: Object to the form.
 03:49 12 THE WITNESS: I -- I don't know that so I
 03:49 13 don't know the timing on when that was designed Cohen.
 03:49 14 Q. BY MR. COHEN: Do you know when the above ground
 03:49 15 storage tank was moved to that area?
 03:49 16 A. That was moved with the degreaser was moved up
 03:50 17 into the -- the more northern reaches of the facility.
 03:50 18 Q. And do you know what division that was?
 03:50 19 A. It went from the -- I believe from the die cast
 03:50 20 to the lubricator area.
 03:50 21 Q. And do you know when that change occurred?
 03:50 22 A. Um, I -- I don't recall the exact date but I did
 03:50 23 know it; so...
 03:50 24 Q. Do you know why the change occurred?
 03:50 25 A. I don't know why the degreaser was moved up into

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03:50 1 that area, no, sir.
 03:50 2 Q. You told Ms. Ross that in your opinion that
 03:51 3 Madison-Kipp site was one of the worst sites you had
 03:51 4 ever seen, largely because of the DNAPL it moved
 03:51 5 offsite.
 03:51 6 Am I characterizing that correctly?
 03:51 7 A. There's a combination of things: One, it sits on
 03:51 8 fractured rock. Fractured rock is relatively close to
 03:51 9 the surface.
 03:51 10 That it was a DNAPL site with a long history of
 03:51 11 dumping of free product -- free phase DNAPL and that the
 03:51 12 deep groundwater was moving at the various levels, which
 03:51 13 makes it even more complex in fractured rock.
 03:51 14 And then further the fact that very high
 03:51 15 concentrations had gone offsite in different directions.
 03:52 16 One would think that if you have groundwater flowing
 03:52 17 from a certain direction, you would get a distribution
 03:52 18 of contamination, at least in the dissolve phase,
 03:52 19 consistent with that direction.
 03:52 20 But here we've got contamination in two different
 03:52 21 directions. And it's hard to think that water is going
 03:52 22 in two different directions.
 03:52 23 So my position is that they don't understand the
 03:52 24 groundwater flow conditions, and the DNAPL is going to
 03:52 25 follow the flow paths of the fractures. And there

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03:52 1 hasn't been a fracture analysis to understand where the
 03:52 2 DNAPL would be.
 03:52 3 Q. Would you agree with me that based on your
 03:52 4 experience complex sites like this take a longer period
 03:52 5 of time to investigate?
 03:52 6 A. Oh, I think I've spoken to that and I agree with
 03:52 7 that yes, sir.
 03:52 8 Q. And would you also agree with me that at least as
 03:52 9 of the present moment, the DNR has not agreed with your
 03:52 10 position that this is a DNAPL site?
 03:53 11 A. I saw where Mr. --
 03:53 12 MR. BERGER: If you know what their current
 03:53 13 position is.
 03:53 14 THE WITNESS: I saw early in Mr. Schmoller's
 03:53 15 position asked that question he said he didn't think it
 03:53 16 was.
 03:53 17 Q. BY MR. COHEN: And you disagree with
 03:53 18 Mr. Schmoller?
 03:53 19 A. No. What I disagree with is the 1 percent rule
 03:53 20 which says that if you're above 1 percent solubility,
 03:53 21 the presumption is that DNAPL's there. And if the
 03:53 22 presumption is there, then you should characterize your
 03:53 23 investigation to include looking for DNAPL.
 03:53 24 So what happened was the Madison-Kipp team
 03:53 25 including ARCADIS, chose to say there's no DNAPL there,

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03:53 1 even though the presumption there was. And as a result,
 03:53 2 they didn't try to characterize the DNAPL. And as a
 03:53 3 result they got these huge surprises of very high
 03:53 4 concentrations right there on the site.
 03:53 5 MR. COHEN: Those are all the questions I
 03:53 6 have. Thank you.
 03:53 7 THE WITNESS: Thank you.
 03:54 8 MR. BUSCH: Nothing.
 03:54 9 MR. BERGER: I have a couple follow-up
 03:54 10 questions.
 03:54 11
 03:54 12 EXAMINATION
 03:54 13 BY MR. BERGER:
 03:54 14 Q. I'm just not sure I understand what your answers
 03:54 15 are and want to clarify.
 03:54 16 Your opinion as to the conduct is based on all of
 03:54 17 data in evidence in the case, including all the
 03:54 18 groundwater results, all the soil results, all the
 03:54 19 onsite and offsite data generated; is that true?
 03:54 20 MR. BUSCH: Objection to the form.
 03:54 21 THE WITNESS: Yes, it is.
 03:54 22 Q. BY MR. BERGER: So it's not just Schmoller and
 03:54 23 Lenz?
 03:54 24 MR. BUSCH: Object to the form.
 03:54 25 THE WITNESS: Well, certainly not, sir.

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03:54 1 Q. BY MR. BERGER: Okay. It's all of evidence.

03:54 2 A. It's all of the evidence including all of the

03:54 3 analysis.

03:54 4 Q. Okay. Do you recall Mr. Schmoller testifying

03:54 5 that when he became project manager for DNR, the first

03:54 6 thing he did was review all of the reports and

03:54 7 investigation reports and materials submitted by

03:54 8 Madison-Kipp from the beginning of the project?

03:54 9 A. I was.

03:54 10 MR. BUSCH: Object to the form.

03:54 11 THE WITNESS: That was my understanding,

03:55 12 yes.

03:55 13 Q. BY MR. BERGER: And you also reviewed those

03:55 14 reports as well, did you not?

03:55 15 A. I did. And the ones I didn't, my team did.

03:55 16 MR. BERGER: Okay. I don't have anything

03:55 17 else.

03:55 18 MR. BUSCH: Thank you.

03:55 19 (Discussion held off the record.)

03:55 20 THE VIDEOGRAPHER: This is the end of our

03:55 21 deposition today, the end of disk number three, of

03:55 22 volume number three of the deposition Lorne G. Everett,

03:55 23 Ph.D. on February 14th of the year 2013. We are

03:55 24 concluding at 3:56 p.m.

03:55 25 THE REPORTER: Does anyone want a copy of

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3
4
5 I, LORNE G. EVERETT, Ph.D., hereby certify
6 under penalty of perjury under the laws of the State of
7 California that the foregoing is true and correct.
8 Executed this _____ day of
9 _____, 2013, at _____, California.

10
11
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15 _____
16 LORNE G. EVERETT, Ph.D.
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03:55 1 this, certified copies?

03:56 2 MS. ROSS: Of course.

03:57 3 MR. WEISS: Electronic copy. You have any

03:57 4 card.

03:57 5 MR. COHEN: And I want an electronic copy as

03:57 6 well.

03:57 7 MR. BERGER: I think I'll take an electronic

03:57 8 copy too.

03:57 9 And I'll let you know if I want the video.

10 (The videotape deposition was concluded

11 at 3:57 p.m.)

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3
4 I, JOAN L. PARKER, CSR 12912, do hereby
5 certify:
6 That prior to being examined, the witness in
7 the foregoing proceeding was by me duly sworn to testify
8 to the truth, the whole truth, and nothing but the
9 truth;
10 That said transcript was taken down by me in
11 shorthand and thereafter reduced to typewriting via
12 computer-aided transcription under my direction and
13 supervision, and is a true and correct transcription of
14 my original stenographic notes.
15 I further certify that I am neither counsel
16 for, nor related to, any party to said action, nor in
17 anywise interested in the outcome thereof.
18 UNDER PENALTY OF PERJURY, I declare that the
19 foregoing is true and correct.
20 Executed this 27th day of February, 2013, at
21 Santa Barbara, California.
22
23
24
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